LOEWE OC-420M

MODEL

SERVICE MANUAL

HITACHI SERVICE MANUAL

TK	No. 2431E

VT-125E(VPS)
VT-135E(VPS)

Technical Data

— VT-125E(VPS) —

— VT-135E(VPS) —

VHS
THIS VIDEO DECK IS A VHS TYPE VIDEO RECORDER.
FOR PROPER OPERATION, ONLY THE VHS TYPE CASSETTE MUST BE USED.

SPECIFICATIONS AND PARTS ARE SUBJECT TO CHANGE FOR IMPROVEMENT

VIDEO CASSETTE RECORDER

April 1986 **TOKAI WORKS**

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CHAPTER 1

SPECIFICATIONS

Format:	VHS PAL Standard
Recording:	Rotary Two-Head Helical Scan Azimuth Recording
Tape Speed:	23.39 mm/sec.
Tape Width:	12.7 mm
Operation Temperature:	5°C to 40°C
Video:	PAL colour (system B & G) & CCIR monochrome signals 625 lines
Recording Time:	240 min. (with Hitachi E-240 cassette)
Aerial Input:	VHF channels 2 — 12 CATV channels S1 — S20 UHF channels 21 — 69
RF Output:	UHF channels 37 (30 — 39 adjustable) (System G)
Video Input:	0.5 to 1.5V p-p 75 ohm Unbalanced
Video Output:	1V p-p 75 ohm Unbalanced
S/N Ratio (Video):	40 dB
S/N Ratio (Audio):	43 dB
Horizontal Resolution:	Colour 240 lines
Audio Input:	−2 dBm 50 Kohm
Audio Output:	−2 dBm 10 Kohm
Audio Frequency Range:	70 Hz to 12 kHz
Power:	AC 220V 50 Hz
Power Consumption:	36W (including timer) (VT-125E) 37W (including timer) (VT-135E)
Timer:	24 hour digital indication
Cabinet Size:	435 mm(W) x 95 mm(H) x 344 mm(D)
Weight:	7.0 kg
Accessory Included:	1 — Aerial cable 2 — Programme sheets 1 — Infrared Remote control unit

* Design and specifications are subject to change without notice.

SAFETY PRECAUTIONS

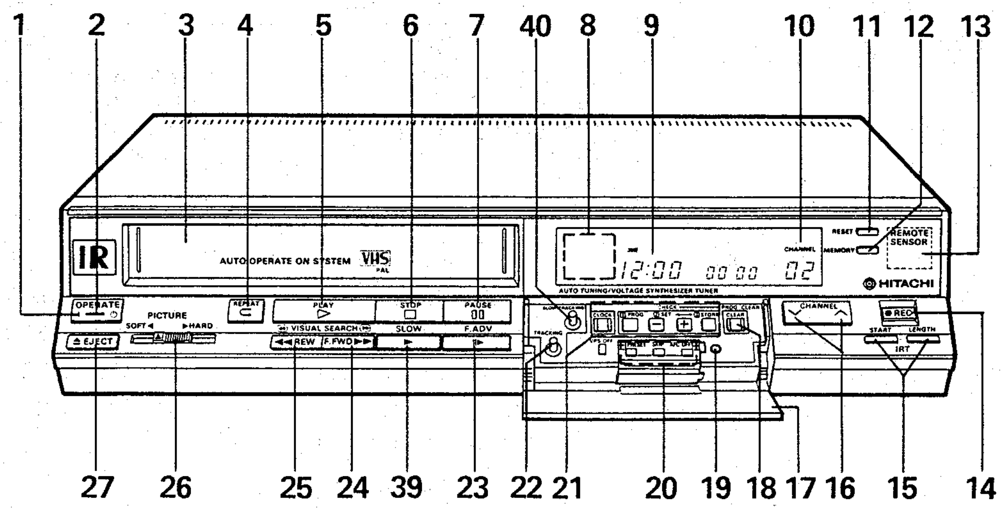
The following precautions should be observed when servicing.

1. Since many parts in the unit have special safety-related characteristics, always use genuine Hitachi replacement parts. Especially critical parts in the power circuit block should not be replaced with other makers'.
   Critical parts are marked with ⚠ in the schematic diagram and circuit board diagram.
2. Before returning repaired unit to the customer, the service technician must thoroughly test the unit to ascertain that it is completely safe to operate without danger of electrical shock.

LIST OF DIFFERENCES

	ITEM		VT-135E (VPS)	VT-125E (VPS)
FEATURES	HQ (HIGH QUALITY)		USED	USED
	TRICK PLAY		○ VISUAL SEARCH ○ PAUSE ○ F. ADV (By Remote Control) ○ REPEAT ○ SLOW	○ VISUAL SEARCH ○ PAUSE ○ F. ADV (By Remote Control) ○ REPEAT
	AUTO OPERATE ON FUNCTION		YES	YES
	NOISE LOCK SEARCH FUNCTION		YES	YES
	REMOTE CONTROL		WIRELESS	WIRELESS
	TIMER RECORDING PROGRAMS		4 PROGRAMMES/2 WEEKS	4 PROGRAMMES/2 WEEKS
	TIMER BACKUP POWER		ABOUT 5 MINUTES	ABOUT 5 MINUTES
	TIMER PROGRAMMED TIME DISPLAY		START AND STOP SIMULTANEOUSLY	START AND STOP SIMULTANEOUSLY
	IRT		CAN SET START TIME AND LENGTH	CAN SET START TIME
	TAPE COUNTER INDICATOR		INDEPENDENT	INDEPENDENT
	MEMORY STOP OPERATION MODE		REWIND AND FORWARD	REWIND AND FORWARD
	CHANNEL TUNING FUNCTION		VOLTAGE SYNTHESIZER (AUTO TUNING)	VOLTAGE SYNTHESIZER (AUTO TUNING)
	INPUT SELECT SWITCH		NONE	NONE
	PLAYBACK PICTURE CONTROL		HIGH FREQUENCY CONTROL	HIGH FREQUENCY CONTROL
	ONE BUTTON RECORDING		YES	YES
	SLOW TRACKING		YES	NO
	VPS (VIDEO PROGRAMME SYSTEM)		YES	YES
CHASSIS	BASIC CHASSIS TYPE		UY	UY
	CYLINDER MOTOR		THREE-PHASE OUTER ROTOR FG: 300 Hz	THREE-PHASE OUTER ROTOR FG: 300 Hz
	VIDEO HEAD		3 HEADS CH-1/CH-2: 65 μm, CH-3: 33μm CONNECTOR TYPE	2 HEADS CH-1/CH-2: 65 μm CONNECTOR TYPE
	HEATER		NONE (USED HEAT SINK)	NON (USED HEAT SINK)
	DEW SENSOR		NO	NO
MAIN CONTROL ICs	VIDEO SYSTEM	Y-SIGNAL PROCESS CHROMA SIGNAL PROCESS REC/PB AMP AND CORRECTOR PICTURE CONTROL	HT4727AP (IC203) HT4539 (IC301) HT4708 (IC205) HA11852 (IC1) MSM6965RS (IC204)	HT4727 (IC203) HT4539 (IC301) HT4708 (IC205) HA11852 IC1) MSM6965RS (IC204)
	AUDIO SYSTEM	BA5115L (IC402)	BA5115L (IC402)	BA5115L (IC402)
	SERVO SYSTEM	SPEED/PHASE CONTROL CYLINDER MOTOR DRIVE CAPSTAN MOTOR DRIVE TRICK PLAY CONTROL	M54898AP (IC601) HA13403 (IC1651) M54648L-B (IC602) M51483P (IC608)	M54898P (IC601) HA13403 (IC1651) M54648L-B (IC602) ——
	SYSTEM CONTROL	SYSTEM CONTROL μP LOADING MOTOR DRIVE	HD614042SD37 (IC901) M54649L (IC902)	HD614042SD37 (IC901) M54649L (IC902)
	TIMER	TIMER μP	HD614085SA15 (IC751)	HD614045SD53 (IC751)
	CH-TUNING SYSTEM	TUNING μP BAND SWITCHING	M50161-354SP (IC801) LA7934 (IC802)	M50161-354SP (IC801) LA7934 (IC802)
	POWER SUPPLY	REGULATOR	STK5471 (IC851)	STK5471 (IC851)
	VPS	VPS (VIDEO PROGRAMME SYSTEM) μP	SAA 5235 (IC1101) SAF 1134P (IC1102)	SAA 5235 (IC1101) SAF 1134P (IC1102)

CONTROLS AND FUNCTIONS



1. **OPERATE SWITCH**
Turn system power on and off.

2. **OPERATE INDICATOR**

3. **CASSETTE COMPARTMENT**
Insert a cassette in through the door, and loading will be completed automatically.
Note: Power is turned on automatically when the cassette is loaded.

4. **REPEAT BUTTON**
Press this button after pressing the PLAY button to repeat the scene you have just viewed during playback. The tape is rewound to the position where PLAY button was pressed, then the tape is played back from that position.

5. **PLAY BUTTON**

6. **STOP BUTTON**
The STOP button must be pressed between "RECORD" and any other operation.

7. **PAUSE BUTTON**
Press to pause during recording.
Press to view a still picture during playback.
Press again to release.

8. **MODE INDICATORS**
   - " ▭ " appears when a cassette is in the compartment.
   - " PLAY " appears during the playback mode.
   - " REC " appears during the record mode.
   - "◀◀" appears during the rewind mode and flashes during rewind visual search mode.
   - "▶▶" appears during the fast forward mode and flashes during forward visual search mode.
   - " II " appears during the play/record pause mode.
   - " ⊙ " appears when turning the power off after programming the timer.

9. **DIGITAL DISPLAY**
This shows the time with a 24-hour display and shows the tape position.

10. **CHANNEL INDICATOR DISPLAY**
This shows the channel number corresponding to the channel selected.

11. **COUNTER RESET BUTTON**
To reset counter to "0000".

12. **MEMORY BUTTON**
Press this button so "M" is indicated in the display, then fast forward or rewind the tape. The tape stops when the counter reaches approximately "0000".
Note: Press the button again to switch off the "M" indicator.

13. **INFRARED RAY RECEIVING SECTION**
Receives infrared rays from remote control unit.

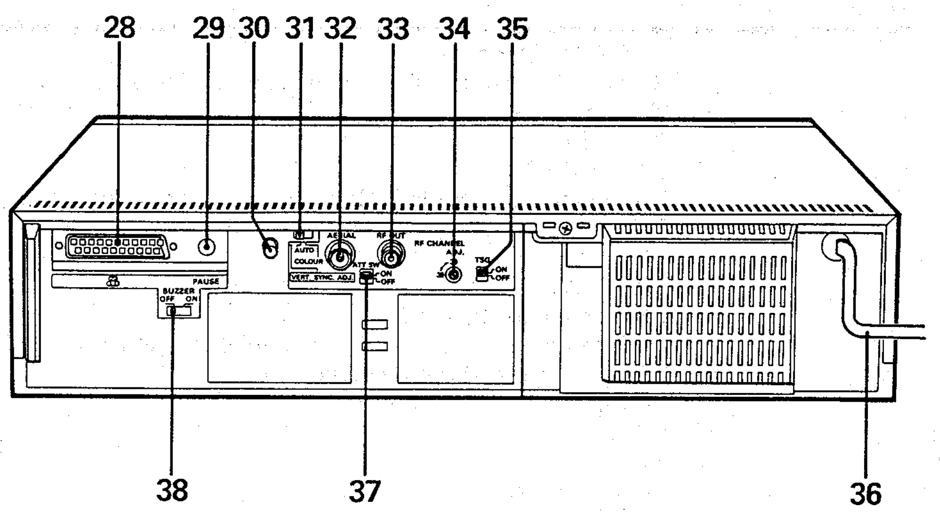
14. **RECORD BUTTON**
Press RECORD button to record.

15. **INSTANT RECORDING TIMER BUTTONS (IRT)**
This allows unattended recording.
Timer will switch the VTR off automatically at a preselected time. This is convenient when you go out during recording.

16. **CHANNEL SELECT BUTTONS**
Select the channels you wish to view or record by pressing these buttons.
And you can also select the "AUX" position* by pressing this button to record or watch the programme input at the PERI jack.
* One channel position either higher or lower outside the range of your preset channels.

17. **SECONDARY CONTROL DOOR**

18. **PROGRAMME CLEAR BUTTON**
Press the button to clear the programming information.



19. **TIMER RESET SWITCH**
Press this switch if the digital display malfunctions or no display appears to reset the display. Set the correct present time for the clock then programme the timer.

20. **CHANNEL PRESET BUTTONS**

21. **TIME SET BUTTONS**

22. **TRACKING CONTROL**
To minimize noise in playback.

23. **FRAME ADVANCE BUTTON**
When you hold FRAME ADVANCE button down during still playback mode, tape will be played back frame by frame. Operates only after PAUSE button has been pressed.

24. **FAST FORWARD/VISUAL SEARCH BUTTON**
Press to activate fast forward.
Press this button during playback and forward playback picture at high speed can be seen.

25. **REWIND/VISUAL SEARCH BUTTON**
Press to start rewind.
Press this button during playback and reverse playback picture at high speed can be seen.

26. **PICTURE CONTROL**
Adjust the picture so it is easy to see.

27. **EJECT BUTTON**
Press to remove cassette. The STOP button must be pressed before "EJECT".

28. **PERI JACK**
For connection with a TV with a PERI or DIN jack using an exclusive cable. See your dealer for details.

29. **CAMERA PAUSE JACK**
Connect Camera pause cable.

30. **VERTICAL SYNC. ADJUSTMENT CONTROL**
If you see vertical shaking on the TV screen in the still playback mode, rotate this control to minimize shaking.

31. **AUTO/COLOUR SWITCH**
AUTO: Circuits are automatically switched to colour or black/white mode. Set to this position when playing or recording PAL signal.
COLOUR: When recording PAL signal in the area very far from broadcasting station, the recorded picture may lose colour. In this case set to this position in recording and playback.

32. **AERIAL INPUT SOCKET**
Connect external aerial.

33. **RF OUTPUT**
Connect to TV aerial input.

34. **RF CHANNEL CONTROL**
Turn TSG ON/OFF switch to "ON" and rotate this control to set the video channel correctly.

35. **TSG ON/OFF SWITCH**
Set to ON and check that the video channel of your TV set is correct. After setting, set this switch to OFF.

36. **MAINS LEAD**

37. **ATTENUATOR SWITCH**
Generally set to the NORMAL position.
Set to "ATT-ON" when interference occurs in an area with a strong signal.

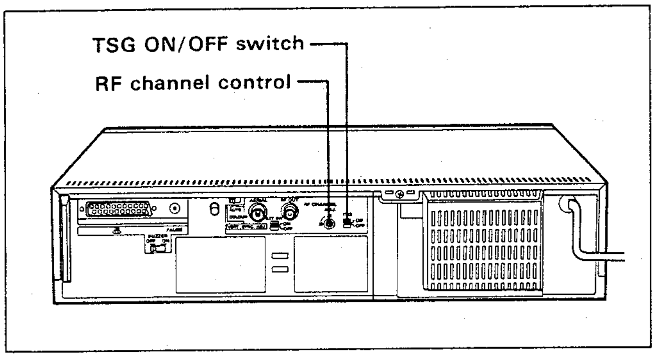
38. **BUZZER SWITCH**
When this switch is on, a beep sound will be heard when any VTR operation button is pressed. This is a convenience allowing you to operation.
To stop this function, turn the switch off.

39. **SLOW BUTTON (Only for VT-135E)**
Press SLOW button during playback, and the tape is played back in the forward direction approximately 10 times slower than the normal speed.

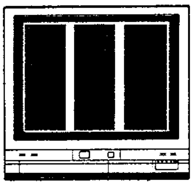
40. **SLOW TRACKING CONTROL (Only for VT-135E)**
Rotate this control to minimize noise in SLOW playback.

VIDEO CHANNEL SETTING

The RF converter changes the video and audio signals from a previously recorded video tape during playback to the same type of signal used for TV broadcasts. The RF converter output in this unit is pre-set prior to shipment to UHF channel 37.


TSG ON/OFF switch
RF channel control

1. Turn the TV on and select an unused channel (CH37) (in some cases this may be marked A/V).
2. Turn the OPERATE switch on.
3. Set the TSG ON/OFF switch to "ON". Then tune the TV until the test pattern shown below is received.



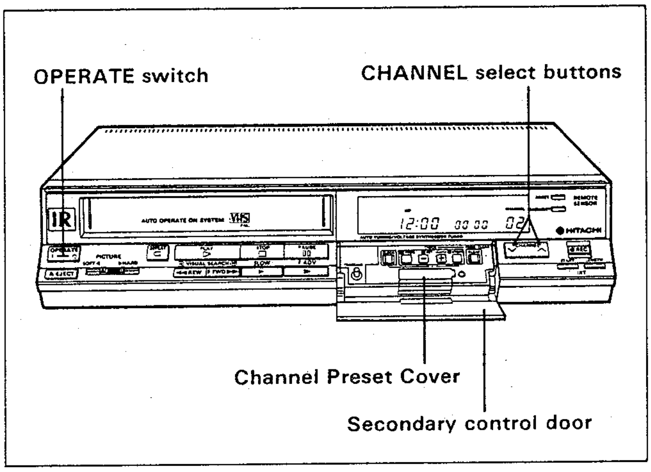
4. If it is not possible to correctly tune to the test pattern or channel 37 is used for broadcasting in your area, adjust the RF converter output with the RF channel control using a small screwdriver and re-adjust your TV until the test pattern is observed.
   For higher channel numbers, turn counterclockwise. For a lower channel, turn clockwise.
5. Having completed the adjustment, set the TSG ON/OFF switch to "OFF".

When connecting the VTR to a TV set provided with auto-tuning and the video channel cannot be set, operate as follows:

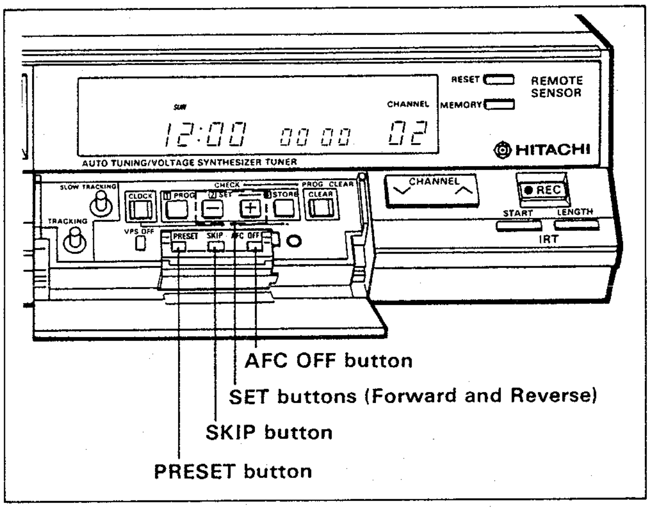
1. Remove the aerial cable from the AERIAL terminal on the VTR.
2. Leave the TSG ON/OFF switch "OFF".
3. Playback a blank tape.
4. Press the PAUSE button to obtain the pause mode.
5. Press the Auto-tuning button.
6. Auto-tuning starts and it stops at video channel 37.
   Note: The auto-tuning indicator of the TV set changes to an exact tuning indicator.
7. Set the channel memory of the TV to ON and store the channel which was set in item 6.
8. Set the TSG ON/OFF switch to "ON" and check that the picture appears on the TV screen.
   Now, the video channel of TV has been set properly.
9. Return the TSG ON/OFF switch to "OFF".
10. Reconnect the aerial cable to the VTR.

PRE-TUNING OF BUILT-IN TV TUNER

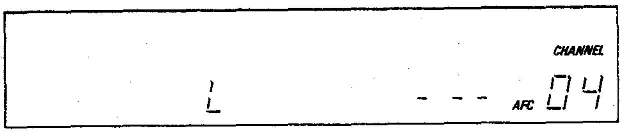
This VTR incorporates a complete television tuner with the required tuning controls. Once you have pre-tuned to preferred stations, you can select any of them by merely pressing the CHANNEL select button.


OPERATE switch
CHANNEL select buttons
Channel Preset Cover
Secondary control door

1. Turn the TV on and select the pre-tuned video channel.
2. Turn the OPERATE switch of the VTR on.
3. Open the Secondary control door to access the Pre-tuning controls.
4. Open the Channel Preset Cover.

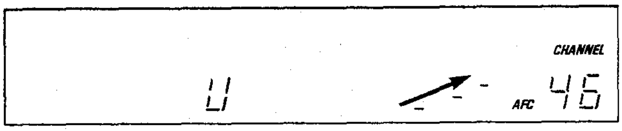

RESET
MEMORY
REMOTE SENSOR
CHANNEL
12:00 00 00 02
HITACHI
AUTO TUNING/VOLTAGE SYNTHESIZER TUNER
CHANNEL
REC
START
LENGTH
IRT
AFC OFF button
SET buttons (Forward and Reverse)
SKIP button
PRESET button

5. Press the PRESET button once.
   The display indication changes from the clock time display to the band indicator display.
   Note: Pressing the button twice will lock the display. If you have pressed it twice, press it once more.
6. Press the CHANNEL select button on VTR to select the channel to be memorized.
   Notes:
   1. The Channel Number Display can be now consecutively selected from "00" through "73" and then "95" through "99" and "AUX" by pressing the CHANNEL select button either upward or downward. In this case, Channel Number may be any number.
   2. When "AFC" is not indicated in the display, press AFC OFF button to display "AFC".

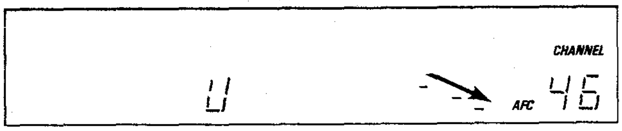


For example, the above diagram shows that channel 4 has been selected.

7. Press the SET button (Forward or Reverse) to start tuning.
   At a station that is broadcasting, the picture appears on the TV screen. If the station received is different from the channel to be preset, press SET button (Forward or Reverse) again.
   At the next station, the searching will stop and the new station can be preset. Repeat this until the desired station is reached. By repeating this, the Band indicator on the display will change in sequence L, H, U, L....
   Notes:
   - Press SET button (Forward); channels are searched in the order, VHF (1 – 12) → CATV (S1 – S20) → UHF (21 – 69), and "–" appears in sequence in the direction of the arrow during searching.



   - Press SET button (Reverse); channels are searched in the reverse order to the above, and "–" appears in sequence in the direction of the arrow.



8. Follow the same steps as explained in steps 6 and 7 above for other channels.
   You can preset up to 79 channels in memory.
9. After having completed tuning all channel memories you want, press the PRESET button once again.

These channels preset in memory as shown in the above can be selected by the CHANNEL select buttons on the VTR.

The provided sheet is used to list the programmes to which you pre-tune your VTR. List the programmes and paste the sheet on the side panel, etc. so as not to hinder you when you operate the VTR.

AFC (Automatic Frequency Control)

Since this unit has an AFC circuit, when a channel is preset following the above procedure, the AFC turns on automatically and you can receive the signal in optimum condition.

If a TV channel signal is marginal due to graininess or ghosting, the picture may sometimes be improved by manually tuning for best picture and then defeating the AFC action. To turn AFC off, follow the procedure below.

1. Select the desired channel by pressing CHANNEL select button.
2. Press the PRESET button once.
3. Press the AFC OFF button. "AFC" disappears from the display.
   Note: Pressing the button once again will turn the AFC on.
4. Tap on the SET button (Forward or Reverse) alternately for fine tuning.
5. Press the PRESET button once again.

Channel selection

The channel up and down controls on the VTR permit advancing the tuner directly to the next higher or lower programmed channel.

Eliminating unwanted preset channels

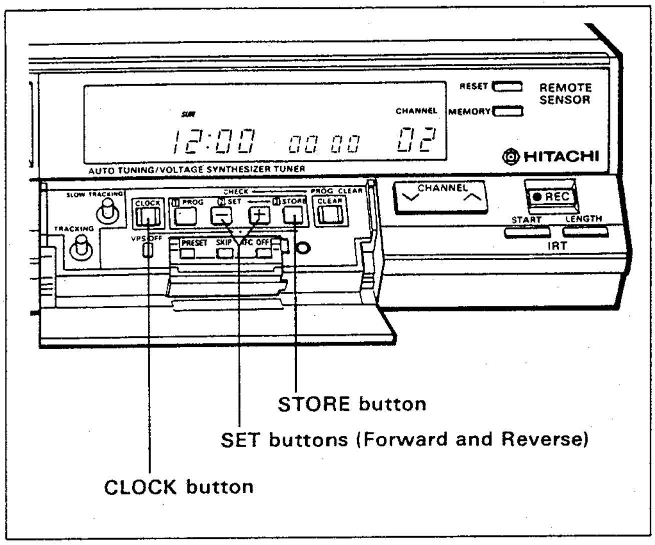
You can rearrange the desired channels by eliminating unwanted preset channels for channel up/down tuning.

1. Press the PRESET button once.
2. Press the CHANNEL select buttons until an unwanted channel is found.
3. Press the SKIP button once.
   Sound will go off indicating the channel has been erased from memory.
4. Repeat steps 2 and 3 until all unwanted channels have been erased.
5. After eliminating them, press the PRESET button once again.

Note: To restore the erased channel, repeat the above steps 1 through 3.

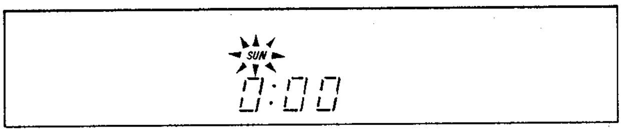
CLOCK TIME SETTING

The built-in digital clock is based on a 24 hour cycle and gives you a constant readout of the time and day.

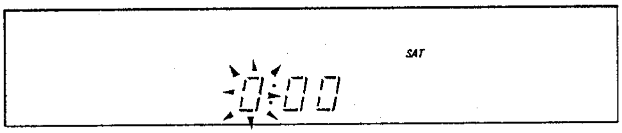

RESET
REMOTE SENSOR
CHANNEL
MEMORY
SUN
12:00 00 00 02
HITACHI
AUTO TUNING/VOLTAGE SYNTHESIZER TUNER
CHANNEL
REC
START
LENGTH
IRT
CLOCK
PROG
SET
STORE
CLEAR
PRESET
SKIP
STORE button
SET buttons (Forward and Reverse)
CLOCK button

- When the MAINS lead is plugged in for the first time, "—:— —" will appear on the display.

1. Press the CLOCK button.
   "SUN" flashes on and off and "0:00" lights.

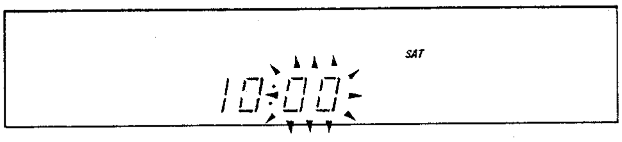


2. Press the SET button (Forward or Reverse) to select the present day of the week.
   Hold the button down to advance rapidly.
   When the present day of the week appears, press the STORE button. "0" hour starts flashing.



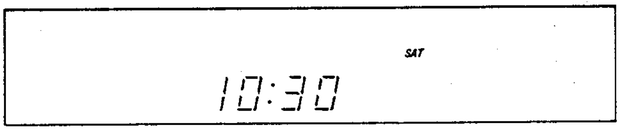
   For example, the above diagram shows that Saturday (SAT) has been set.

3. Press the SET button (Forward or Reverse) to set the present hour.
   Hold the button down to advance rapidly. Press the STORE button when the present hour appears.
   "00" minutes starts flashing.



   For example, the diagram shows that "10" hour has been set.

4. Press the SET button (Forward or Reverse) to set the minute.
   Hold the button down to advance rapidly. Press the STORE button when the present minute appears.



   For example, the diagram shows that "30" minutes has been set.

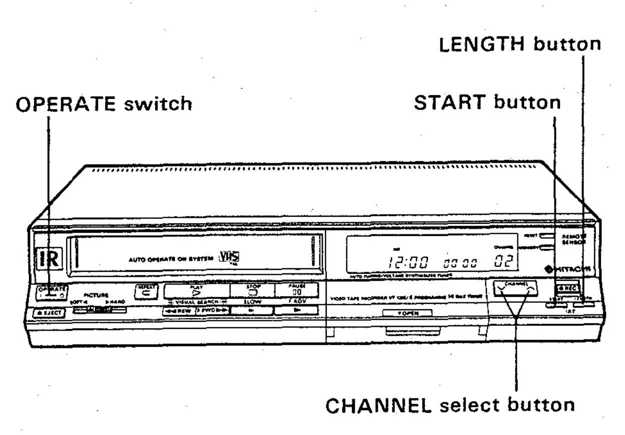
Now the clock has been set to the correct time of day.

Notes:

- This VTR has a built-in power failure compensation circuit. If power interruption of less than 5 minutes occurs, the clock time and programming will not be lost.
- The digital display is bright when the OPERATE switch is turned ON and automatically becomes dim when the switch is off.

INSTANT RECORDING TIMER (IRT)

Instant Recording Timer allows you to make simplified timer recording without using the programme timer. There are two simplified methods as explained below.



■ FOR IMMEDIATE RECORDING

1. Insert the cassette (one with the erase prevention tab intact) into the cassette loading door.
2. Press CHANNEL select button to select the channel to be recorded.
3. Press LENGTH button to set the timer to "0:00". Then press LENGTH once again to indicate the recording time on the display. The time changes in hours and minutes in the order of 0:30, 1:00, 1:30, 2:00, 3:00 and 4:00 every time the button is pressed. Recording starts when 0:30 is displayed. During recording, the remaining time is displayed.
4. At the end of recording the display reads 0:00; the VTR will automatically stop recording.

Note: The IRT feature does not operate during play and after a program timer recording has started. During rewind mode, the IRT recording will automatically start after the tape is rewound fully to the end.

■ FOR SIMPLIFIED TIMER RECORDING

1. First perform Steps 1 and 2 of "FOR IMMEDIATE RECORDING".
2. Press START button to select the start time. Each press will change the clock display (the start time) by increments of 10 minutes from the nearest 10 minutes of the hour.
3. Press LENGTH button for the recording time. The counter display is reset to hours and minutes in the order of 0:00, 0:30, 1:00, 1:30, 2:00, 3:00 and 4:00 every time the button is pressed.
4. Press OPERATE switch off, and the "🕘" indication will appear on the Display. The recording will start at the time you have selected and will automatically stop when the recording time display reads "0:00".

Notes:

1. The recording time can be extended any time during IRT by pressing LENGTH button . The recording time display will be reset to 0:30, 1:00, 1:30, 2:00, 3:00 or 4:00 as selected.
2. To stop the VTR during IRT, press LENGTH button until the recording time display reads 0:00, or press OPERATE switch and the STOP button within ten seconds.
3. To change the IRT program, the previous information must be first cleared.
4. If IRT and the program timer recording overlap, the former will override the latter.

To recall the IRT program

Press START or LENGTH button for recalling the start time and the recording time. In about 8 seconds the displays return to the present time of day.

Note: To recall the start time or the recording time, press LENGTH button only once. Pressing more will change the recording time and cause a need for resetting.

To cancel Instant Recording

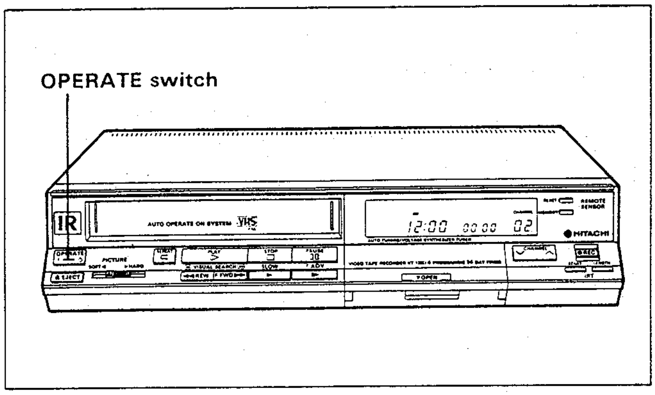
Press LENGTH button as many as may be required to indicate "0:00" on the display. After approximately 8 seconds the display will return to the present time of day, and IRT has been now cleared.

Note: OPERATE switch may be on or off.

TIMER RECORDING

The programmable electronic clock/timer permits the unattended recording of 4 preselected programmes within a period of 14 consecutive days, including the same programme(s) repeated on every day and the same programme(s) every week. It turns the unit on and off and selects the channel automatically.

Preparations for timer recording

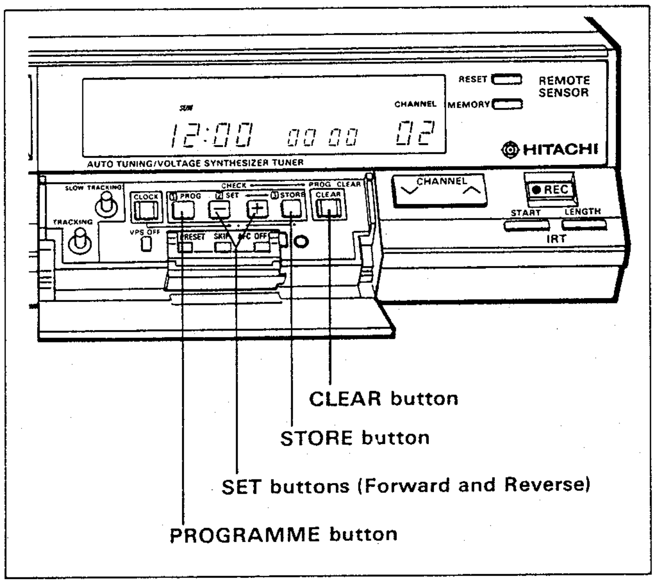

OPERATE switch
IR
VHS
12:00 00 00 02
REMOTE SENSOR
HITACHI

- Your TV does not have to be on to make a recording because the VTR records TV programmes without the aid of your TV. Its only use is for monitoring.

1. Make sure that the clock shows the present time and day correctly.
2. Insert a cassette.
   Be sure to check that the record safety tab is not missing. If the record safety tab is missing, recording will not begin.
3. Programme the timer.

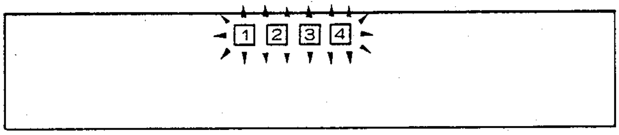
Programming the timer for unattended recording

For unattended recording the timer needs to know what **day** to make the recording, the **time to start**, the **time to stop**, and the **channel to be recorded**.


RESET
REMOTE SENSOR
CHANNEL
MEMORY
SUN
12:00 00 00 02
HITACHI
AUTO TUNING/VOLTAGE SYNTHESIZER TUNER
SLOW TRACKING
TRACKING
CLOCK
PROG
CHECK
SET
STORE
PROG CLEAR
CLEAR
VPS OFF
RESET
SKIP
CHANNEL
REC
START
LENGTH
IRT
CLEAR button
STORE button
SET buttons (Forward and Reverse)
PROGRAMME button

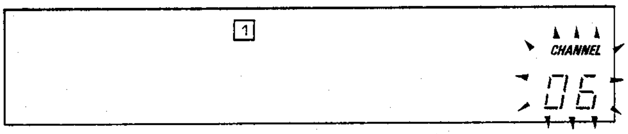
Note: If you input erroneous information by mistake when programming the timer, press the CLEAR button and input the correct information again.

1. Press the PROGRAMME button.
   Programme indicators (1 through 4) flash to indicate which memory positions have not been programmed. If a memory has been programmed, its indicator will not flash.



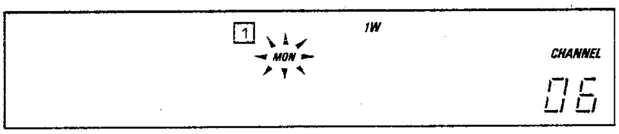
Note: You should determine which memory positions have not been programmed before entering new programming information. New information automatically erases previous programming.

2. Press the SET button (Forward) until the desired programme indicator lights. Programme indicators (1 through 4) light, in sequence, across top of digital display. Press the STORE button when the desired programme number is displayed. Channel number starts flashing.

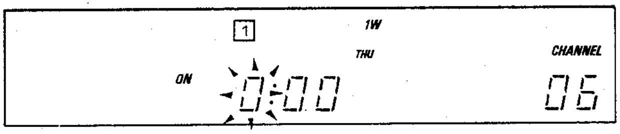

1
CHANNEL
06

For example, above diagram shows programme "1" has been set.

3. Choose the channel to be recorded by pressing the SET or CHANNEL select button. Then press the STORE button.
   "1W" appears and the present day flashes.


1
MON
1W
CHANNEL
06

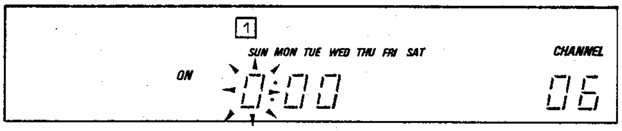
4. Press the SET button (Forward or Reverse) to select the day of recording. Make sure desired Week indicator (1W or 2W) lights. Continuing forward will advance timer to Week Two.
   Press the STORE button after selecting the day of recording. "0" hour starts flashing.


1
1W
THU
CHANNEL
ON
0:00
06

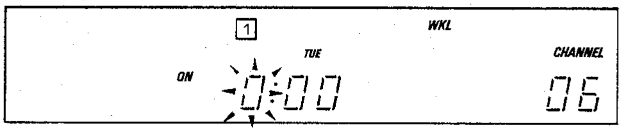
For example, above diagram shows recording on Thursday within 1 week from today.

Notes :

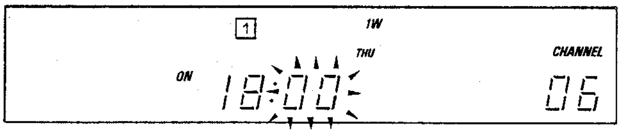
1. To record same time every day of the week:
   Press the SET button (Forward or Reverse) until all day indicators light. Hold down the button to advance rapidly. Then press the STORE button.



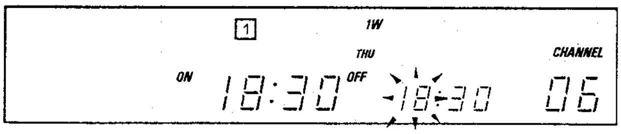
2. To record on a specified day at the same time each week:
   Press the SET button (Forward or Reverse) until the "WKL" indicator lights. Hold down the button to advance rapidly. Then press the STORE button.



5. Select the hour for recording to start by pressing the SET button (Forward or Reverse). Hold down the button to advance rapidly.
   Press the STORE button after selecting the hour for recording to start.
   "00" minutes starts flashing.



   For example, the above diagram shows "18" hours has been set.
6. Select the minutes for recording to start by pressing the SET button (Forward or Reverse). Hold down button to advance rapidly. Press the STORE button after selecting the minute for recording to start.
   "OFF" will appear and "18" hour starts flashing.



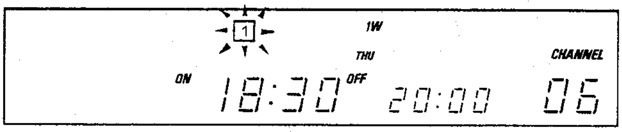
   For example, the above diagram shows "30" minutes has been set.
7. Select the hour and minute to stop recording in the same procedures described in steps 5 and 6. Be sure to press the STORE button after selecting the minute.

   Now, one programming has been completed.
   After few seconds the display returns the clock time display together with letters "1" automatically.
8. Turn off the OPERATE switch. The "◷" indicator will come on.

   Notes:
   1. If the erase prevention tab is removed, the cassette is ejected automatically and "◷" indication will flash. Stick a piece of cellophane tape over the erase prevention hole on the cassette to enable recording.
   2. The "◷" indication will flash, if a cassette is not inserted.

To clear a programme

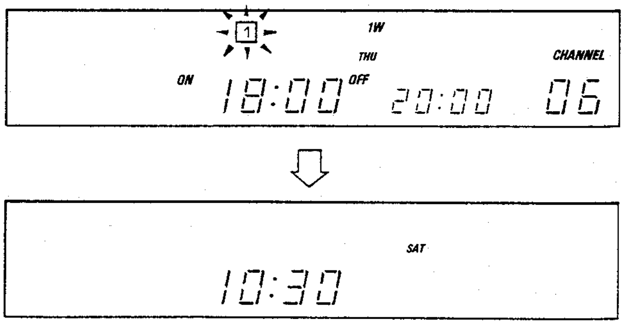
1. Press the SET button (Forward) until desired programme indicator flashes. Then start and stop time appear on the display.



2. Press the CLEAR button.
   The display returns the clock time display to show that the programming has been cleared. Be sure to press the CLEAR button while the display shows the start and stop time. The programming does not clear if the CLEAR button is pressed when the display returns the clock time display.

To check programming

Press the SET button (Forward).
The programme indicator "1" flashes. If the programme No. 1 has been already programmed, both start and stop times are displayed in a few seconds. The display then automatically returns to the present time of day.



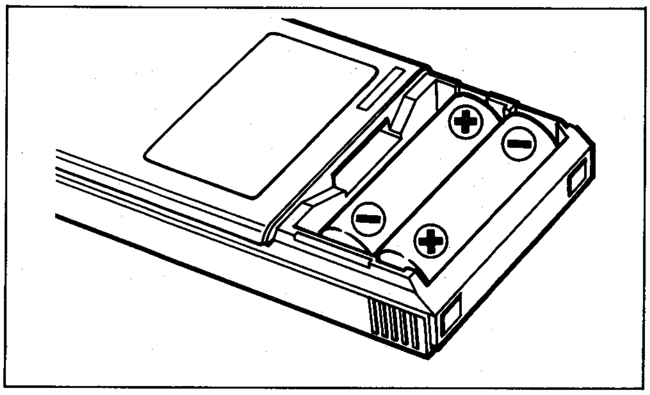
Programming errors

If programmes overlap, the VTR will select the programme with the earliest start time. When that programme is over, the VTR will switch to the next programme. If the start times are the same, the VTR will select the programmes in numerical order.

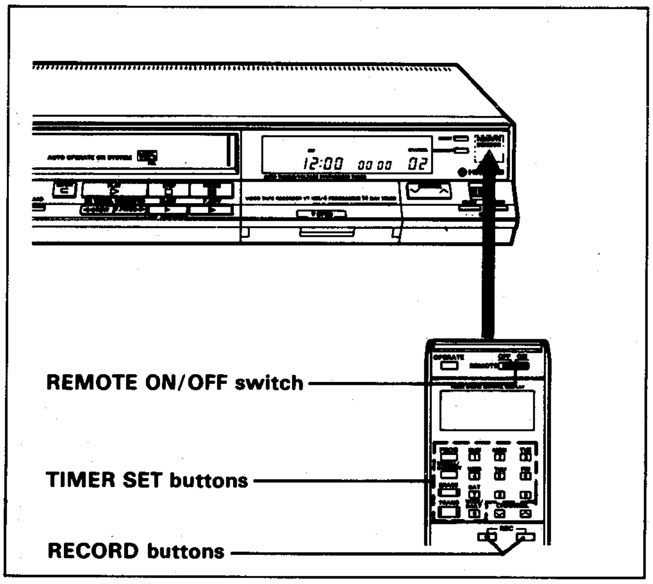
REMOTE OPERATION

You can operate the VTR from a distance using the Infrared Remote Control unit which performs the same functions as the corresponding buttons on the VTR — except for its REMOTE ON/OFF switch, TIMER SET and RECORD buttons.

Power source of infrared remote control unit
The infrared remote control unit is powered by two batteries (size IEC standard R6). The life of the batteries is about a year although it depends on the numbers of times the unit is used. Replace the batteries when operation is not possible or when the distance becomes too small.



Operation of remote control
To use the infrared remote control unit aim it at the receiver on the front panel of the VTR and set REMOTE ON/OFF switch to ON.

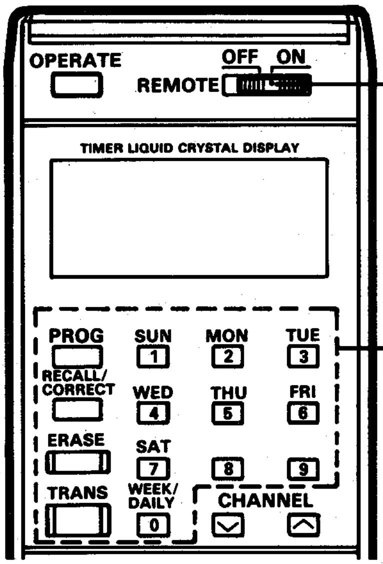


Notes:

1. Press RECORD buttons simultaneously on the remote control unit to record.
2. The infrared rays will bounce off the walls and eventually reach the receiver on the VTR, but for best results transmit rays directly to the receiver.

The timer can be programmed from this Remote Control Unit as well as using the operation buttons on the VTR. The channels of the VTR can also be selected directly using this Remote Control Unit.

■ Programming the timer for unattended recording using Remote Control Unit

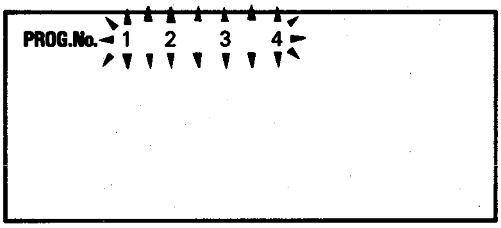

OPERATE
OFF ON
REMOTE
TIMER LIQUID CRYSTAL DISPLAY
PROG
SUN 1
MON 2
TUE 3
RECALL/CORRECT
WED 4
THU 5
FRI 6
ERASE
SAT 7
8
9
TRANS
WEEK/DAILY 0
CHANNEL

1. Set REMOTE ON/OFF switch to ON.
2. Turn on VTR.
3. Programme the timer by pressing these buttons. (See below.)

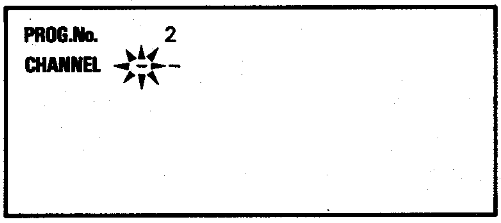
> **Note:** If you input erroneous information by mistake when programming the timer, press RECALL/CORRECT button and input the correct information.

To programme the timer

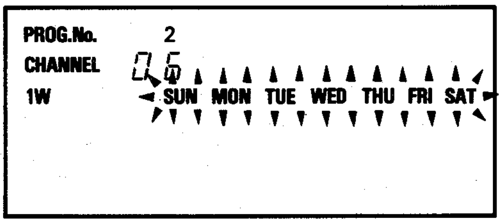
1. Press PROG button once.
   "PROG. No." appears and "1" through "4" flash on the Display.


PROG.No. 1 2 3 4

2. Press one of buttons [1] to [4] to select a Programme No.
   For example, press button [2] to select Programme No. 2.

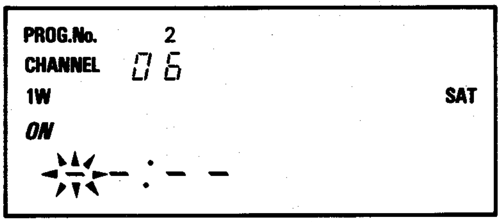

PROG.No. 2
CHANNEL

3. Press 10-key buttons [1] to [0] to select the channel to be recorded.
   Note: For single-digit channel numbers, first press [0] and then the channel number [1] through [9].


PROG.No. 2
CHANNEL 06
1W
SUN MON TUE WED THU FRI SAT

For example, the above diagram shows that "CHANNEL 06" has been set.

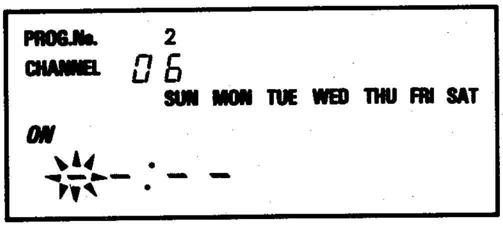
4. Select the day for recording.
   For example, to select this Saturday, press [7] (SAT).


PROG.No. 2
CHANNEL 06
1W
SAT
ON
- - : - -

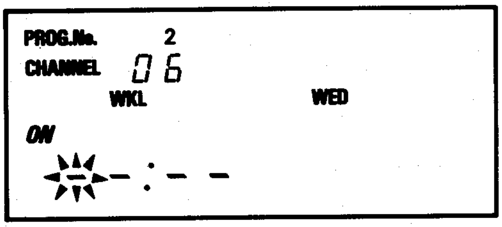
Notes:

1. Display "1W" if the day for recording is within 7 days including today. Display "2W" if the day for recording is between 8th and 14th days.
   Every time button [0] (WEEK/DAILY) is pressed, 1W changes to 2W, WKL (weekly) and SUN through SAT (daily) in sequence.

2. To record at same time every day of the week:
   Press [0] (WEEK/DAILY) repeatedly so all the day indicators light.

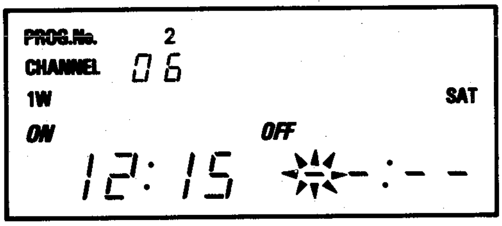


3. To record on a specified day at the same time each week:
   Press [0] (WEEK/DAILY) repeatedly so the WKL indicator lights and then press [1] through [7] to select the day.



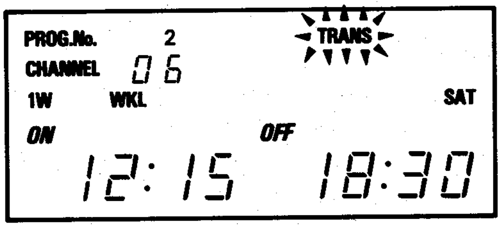
For example, the above diagram shows "WED" on every week has been set.

5. Select the hour and minute for the recording to start by pressing [1] through [0] buttons.
   For example, to set "12:15", press buttons [1], [2], [1], [5] in this order.



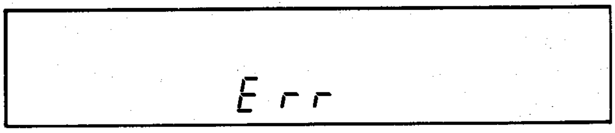
Note: For a single-digit hour or minute press [0] before entering the hour or minute.

6. Select the hour and minute for recording to stop by pressing [1] through [0] buttons.
   For example, to set "18:30", press buttons [1], [8], [3], [0] in this order.



7. Aim the Remote Control Unit at the receiver in the front panel of the VTR and press TRANS button.
   Now the programme No. on the display of the VTR will flash for a few seconds and then change to steady lighting.
   Programming one event is completed.
   Check that a cassette has been loaded in the VTR, then turn off the VTR power.

Notes:
1. The information in the Display of the Remote Control Unit goes off automatically after approx. one minute.
2. Even when the REMOTE ON/OFF switch on the Remote Control Unit is set to OFF after transmitting the programmed information to the VTR, the information is stored in the memory of the VTR.
3. If you select a channel which is not transmitting a signal (a channel which is not displayed if the channel select button on the VTR is pressed) in step 3, "Err" is displayed by the VTR when the TRANS button is pressed.



In this case, correct the channel as follows.
1. Press RECALL/CORRECT button repeatedly until the channel digits flash.
2. Input the correct channel.
3. Press RECALL/CORRECT button repeatedly until "TRANS" flashes.
4. Press TRANS button.

To check the programming

1. Press RECALL/CORRECT button.
   The programmed information is shown by the Display.
   Note: When 2 or more programmes are stored in memory, only the last programmed information is displayed.

To clear the programming

1. Press RECALL/CORRECT button.
   The last programmed information is displayed.
2. Press ERASE button.
   The programmed information is erased from the Display.
   Note: The programmed information which has already been transmitted to the VTR is not erased. Erase it by using the operation buttons of the VTR.

To change the programming information

When you find a mistake after transmitting the programmed information, correct it as follows and transmit the corrected information again to the VTR.

1. Press RECALL/CORRECT button to diaplay the prorammed information on the display.
2. Press RECALL/CORRECT button repeatedly until the digit to be corrected flashes.
3. Correct the error.
4. Press RECALL/CORRECT button until "TRANS" flashes.
5. Press TRANS button.

   Now the programmed information which was previously transmitted is erased and the correct information is stored in the memory of the VTR.

■ To select a channel directly using the Remote Control Unit

Press 10-key buttons $\boxed{1}$ to $\boxed{0}$ to select a channel of the VTR directly.
For example, to select channel No. 18, press $\boxed{1}$ and then $\boxed{8}$.

Notes:

1. For single-digit channel numbers, first press $\boxed{0}$ and then channel number $\boxed{1}$ through $\boxed{9}$.
2. Using the Remote Control Unit, you can also directly select the channel which was erased by pressing the SKIP button of the VTR. For example, when channel No. 5 was previously skipped, the channel is not displayed even if the channel select button on the VTR is pressed, however, it can be displayed when buttons $\boxed{0}$ and $\boxed{5}$ are pressed.

VPS (Video Programme System) FUNCTION

This VTR incorporates the VPS function.

If the VTR is tuned to a TV station transmitting the VPS signal, the VTR automatically takes any delay or extension of the programme into account and can record the specified programme.

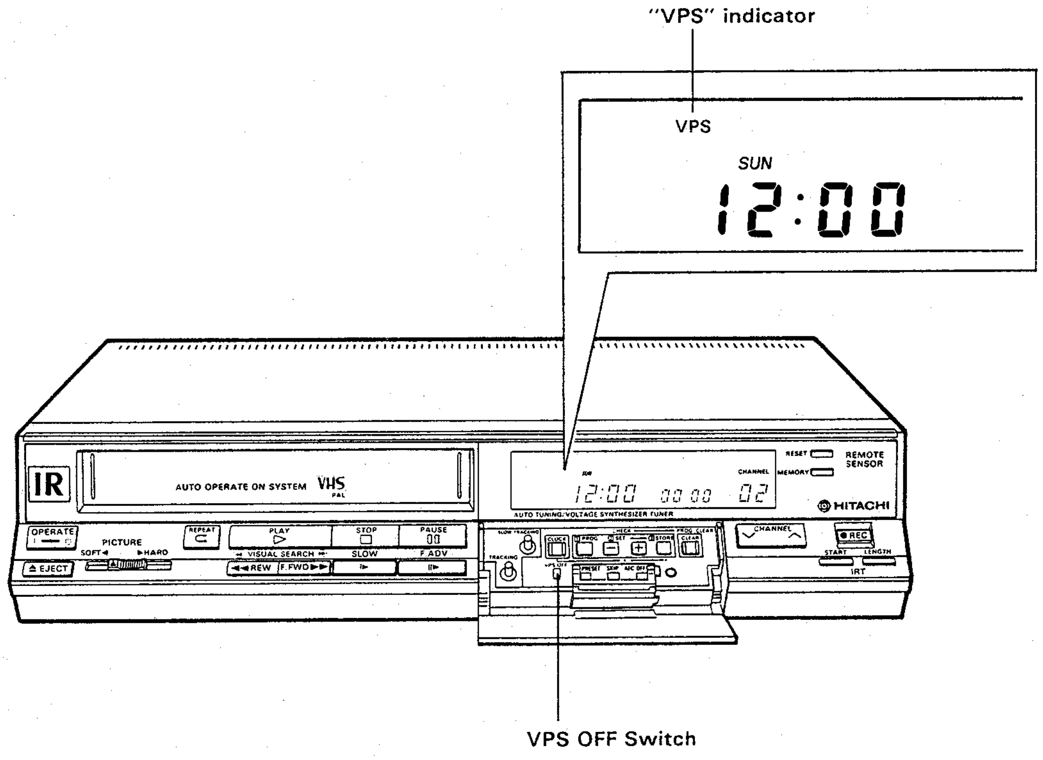
For example, assume that you programme the timer for a football game on channel 8 from 19:00 to 20:45 on Saturday and the football game which is broadcast is changed to 21:00 to 23:00, the VPS function works and the VTR records the football game automatically from 21:00 to 23:00.

When the VTR is tuned to a station transmitting a VPS signal, "VPS" automatically appears in the display of the VTR.

Programming the timer for unattended recording automatically turns on the VPS function.

NOTES:

1. To switch off the VPS function, press the VPS OFF switch once during programming of the timer so the "VPS" display disappears.
   Pressing the switch again turns VPS on.
2. Always programme the timer for one TV programme to record the programme with the VPS function turned on. If you programme the timer for a football game and a movie on channel 3 sequentially from 10:00 to 14:00 for example, only the football game will be recorded but the movie will not.
   In this case, programme the timer with the VPS off or input the other programme using another programme number to turn the VPS function on again.
3. The VPS function also takes a programme that is early by 10 minutes into account and starts recording automatically 10 minutes earlier than the scheduled time.
4. When the VTR is tuned to a station transmitting a VPS signal but the signal conditions are poor, "VPS" will flash in the display.
   In this case, if you programme the timer with VPS turned on, the VPS function does not operate normally.



CHAPTER 2

DISASSEMBLY

1. NAMES AND LOCATIONS OF CIRCUIT BOARDS

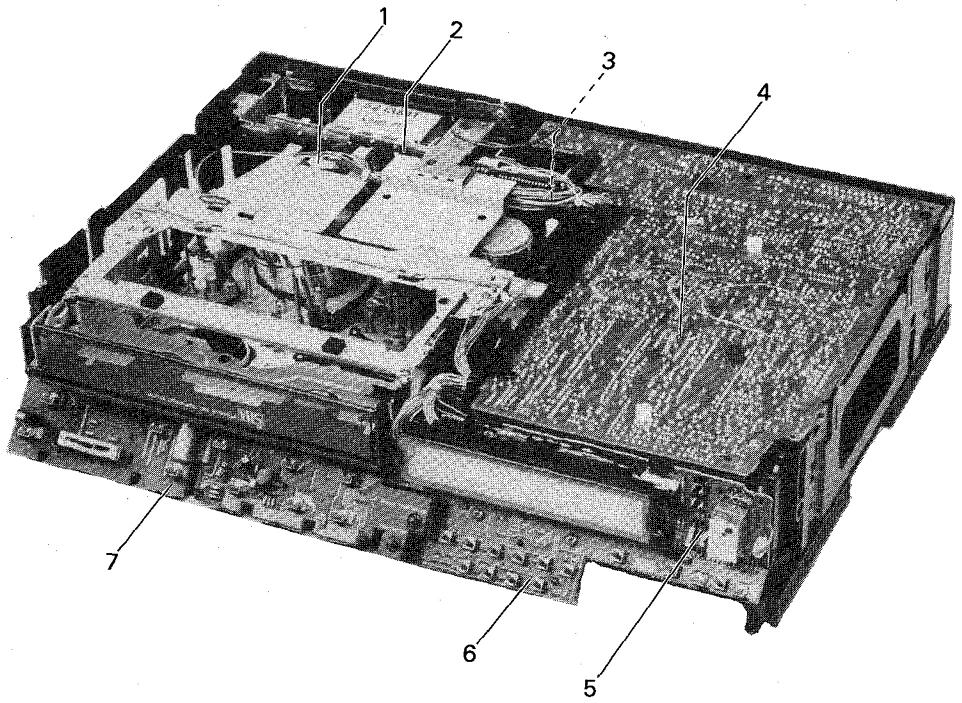


Fig. 1 Top View

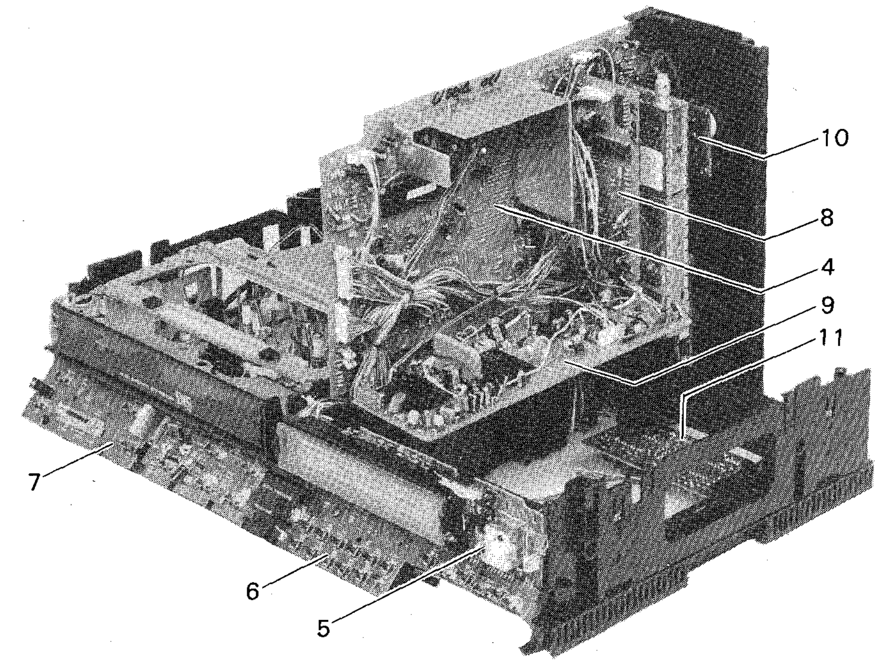


Fig. 2 Top View (with main circuit board open)

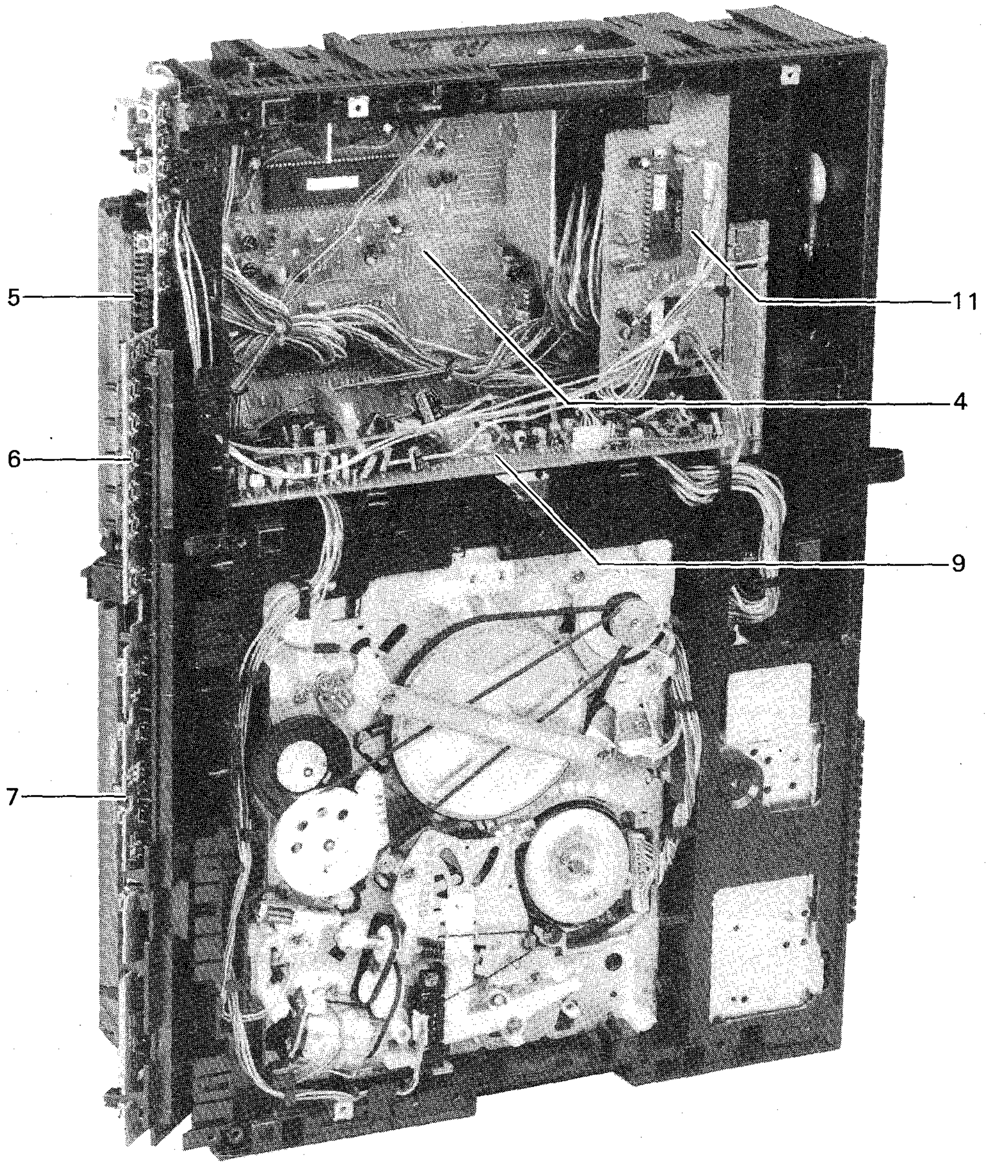


Fig. 3 Bottom View

1. Preamp circuit board
2. Regulator circuit board
3. Cylinder motor driver circuit board
4. Main circuit board
5. Timer circuit board
6. Input key circuit board
7. Operation switch circuit board
8. VS tuning circuit board
9. Y/chroma circuit board
10. Buzzer circuit board
11. VPS circuit board

(See page 2-9 for details on removing these circuit boards.)

2. NAMES AND LOCATIONS OF MAIN MECHANICAL COMPONENTS

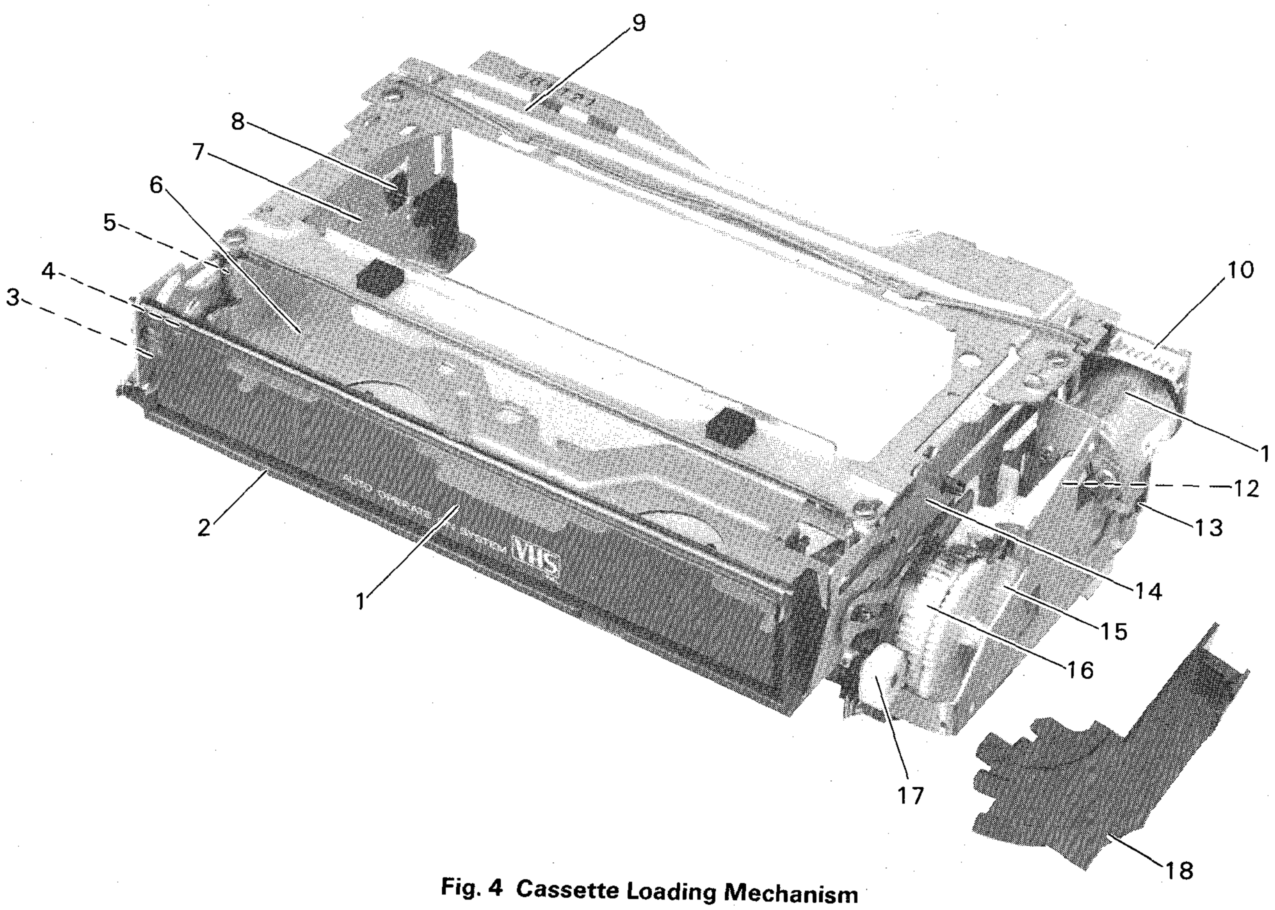


Fig. 4 Cassette Loading Mechanism

1. Cassette door
2. Front holder
3. Synchro gear (L)
4. Door arm
5. Drive gear (L)
6. Cassette holder
7. Side chassis (L)
8. Supply end sensor
9. Chassis holder
10. Cassette loading motor circuit board
11. Cassette loading motor
12. Cassette-in switch
13. Cassette-up switch
14. Side chassis (R)
15. Drive gear (R)
16. Clutch gear
17. Synchro gear (R)
18. Gear cover

(See page 2-11 for details on removing the above components.)

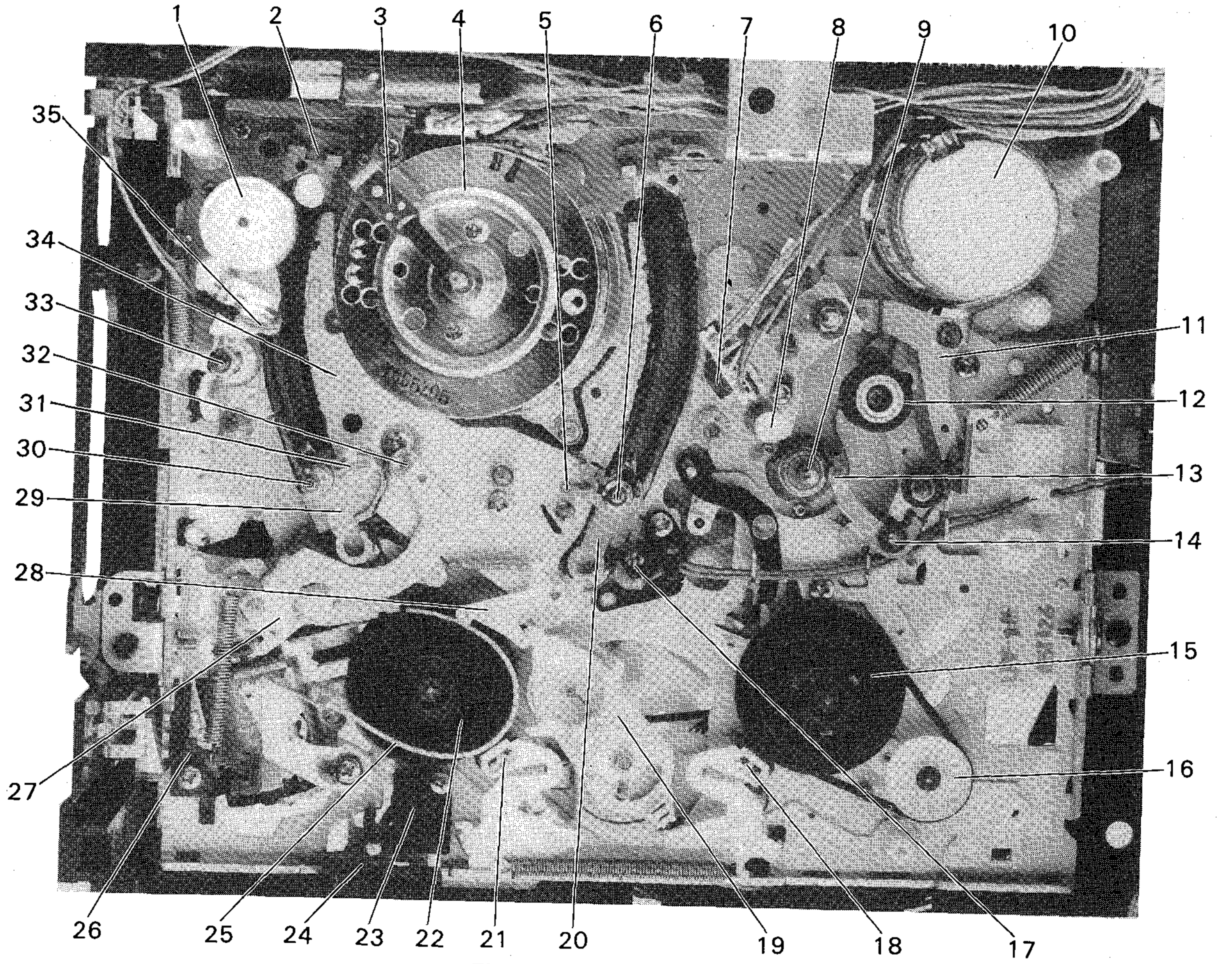


Fig. 5 Top View of Mechanism

1. Impedance roller
2. Catcher/cylinder base
3. Ground brush
4. Upper cylinder (video heads)
5. Inclined guide (take-up)
6. Take-up guide roller
7. A/C (audio/control) head
8. Take-up guide pole
9. Capstan shaft
10. Capstan motor
11. Arm bracket
12. Pressure roller
13. Draw pin (only for VT-135E (VPS))
14. Draw arm (only for VT-135E (VPS))
15. Take-up reel disk
16. Load pulley
17. End lamp
18. Main brake (take-up)
19. Reel drive gear
20. Take-up guide roller base
21. Main brake (supply)
22. Supply reel disk
23. Safety tab switch
24. Record prevention arm
25. Tension band
26. Spring hanger
27. Tension arm
28. Supply sub brake
29. Supply guide roller base
30. Supply guide roller
31. Inclined guide (supply)
32. Tension pole
33. Supply guide pole
34. Subchassis
35. FE (full-erase) head

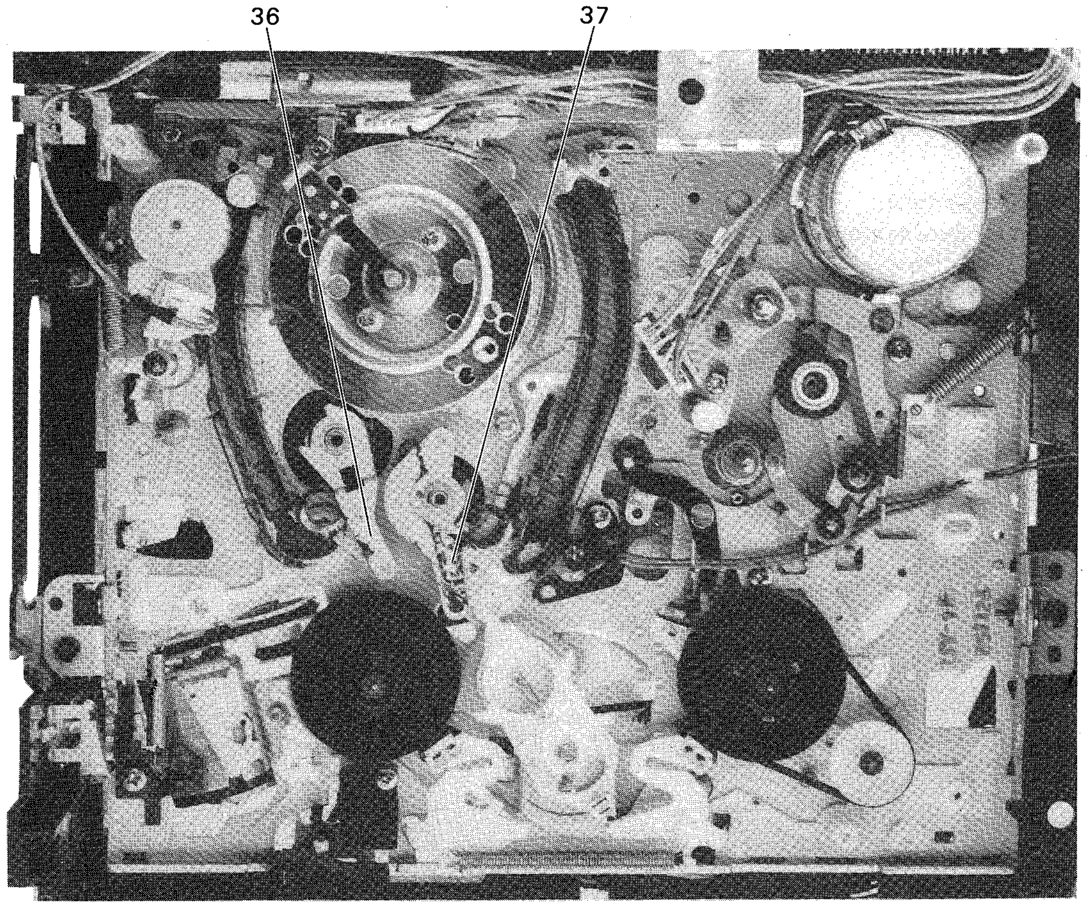


Fig. 6 Top View of Mechanism (with subchassis removed)

36. Supply loading link
37. Take-up loading link

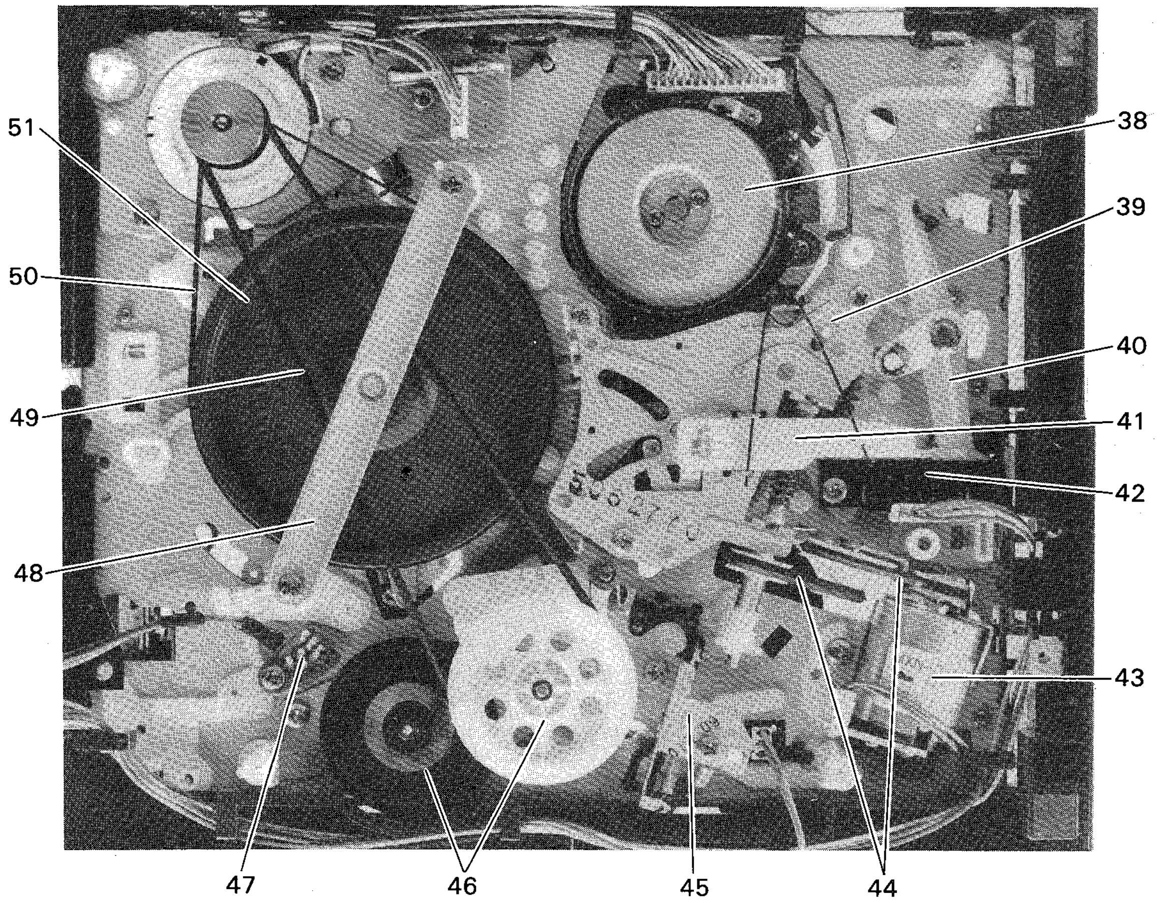


Fig. 7 Bottom View of Mechanism

38. Cylinder motor
39. Loading gear assembly
40. Tension release arm
41. Switch slider
42. Mechanism state switch
43. Loading motor
44. Loading belt
45. Brake slider
46. Clutch plate assembly
47. Reel sensor
48. Flywheel retainer bar
49. Reel belt
50. Capstan belt
51. Capstan flywheel

(See page 2-14 for details on removing the above components.)

3. CASE REMOVAL

1. **Preset door**
2. **Top cover**
3. **Bottom cover**
4. **Front panel**
5. **Shield cover**
6. **Remote controller**

1. Preset Door

1) Open the preset door. Press down on the attachment holder and pull outward in the direction of the arrow.

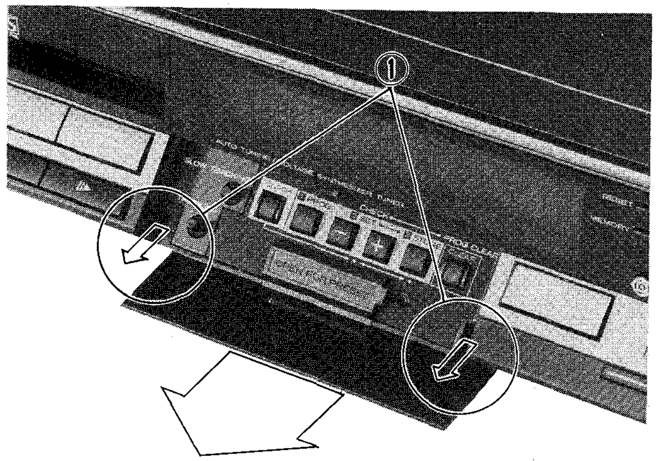


Fig. 1 Preset Door

2. Top Cover

1) Remove the 5 screws.
2) Lift the rear of the top cover upward. Slide the entire cover to the rear.

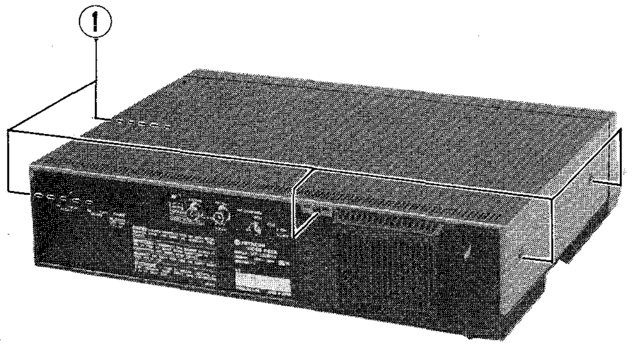


Fig. 2 Top Cover

3. Bottom Cover

1) Remove the 6 screws.

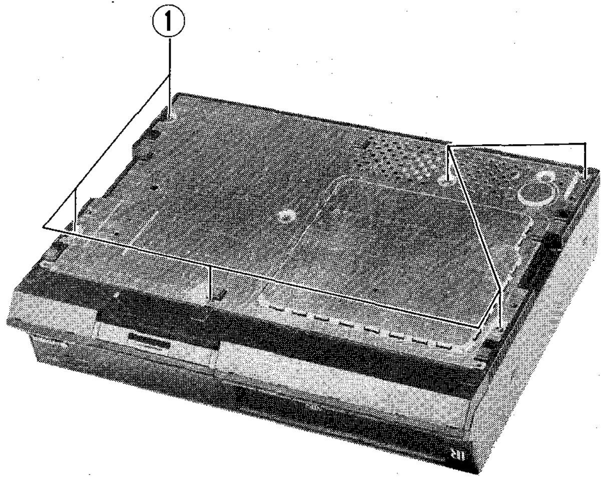


Fig. 3 Bottom Cover

4. Front Panel

1) Remove top and bottom covers (see items 2 and 3).
2) Remove the screw.
3) Release the 5 stoppers.
4) Tilt the top toward you and pull out the entire front panel.

[Cautions during reassembly]

- * *Make sure the picture control slide lever on the operation switch circuit board is correctly inserted into the picture control knob on the back of the front panel.*
- * Removing the tracking control knob first will simplify reassembly.

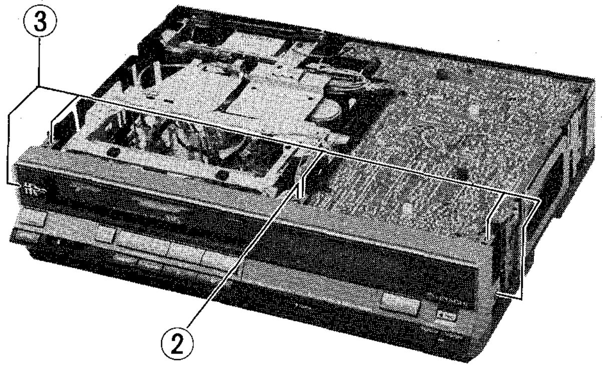


Fig. 4 Front Panel

5. Shield Cover 1, 2

1) Remove the top cover (see item 2).
2) Remove the screw holding the shield cover 1.
3) Remove the screw holding shield cover 2.

[Cautions during reassembly]

- * Make sure the rear of the shield cover 1 correctly fits over the preamp circuit board's shield case.

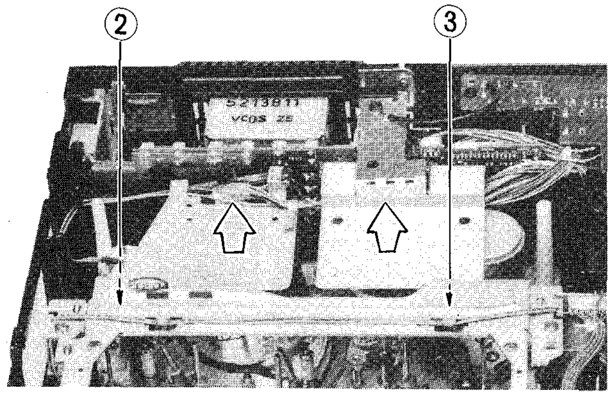


Fig. 5 Shield Cover 1, 2

6. Remote Controller

1) Remove the screw.
2) Release 8 stoppers.

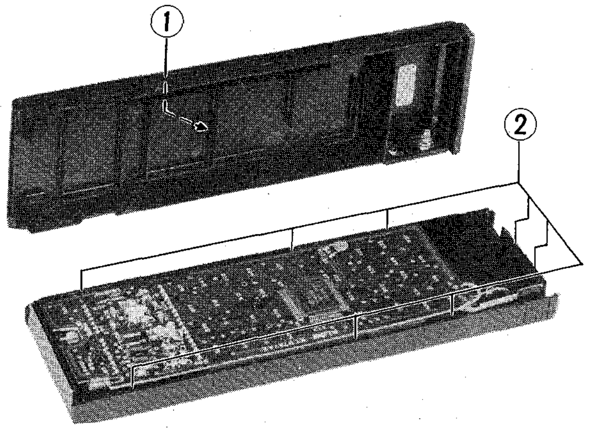


Fig. 6 Remote Controller

4. CIRCUIT BOARD REMOVAL

1. **Main Circuit Board Block** (Main, Y/chroma, VS tuning)
2. **Operation Switch Circuit Board**
3. **Timer Input Key Circuit Board**
4. **Regulator Circuit Board**
5. **Preamp Circuit Board**

1. Main Circuit Board Block

1) Remove the top and bottom covers (see items 2 and 3 in the section on case removal.)
2) Release the 2 stoppers.
3) Remove the 2 screws.
4) Push the circuit board holder in the direction of the arrow. Then lift up the entire circuit board.
5) The circuit board can now be opened in the direction of the arrow.

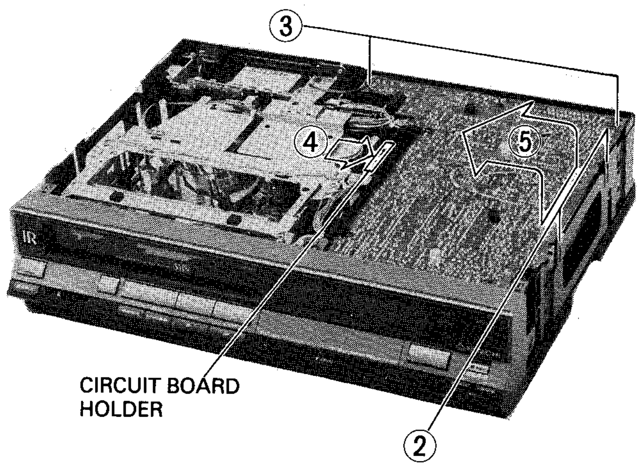


Fig. 1 Main Circuit Board Block

2. Operation Switch Circuit Board (Figs. 2 and 4)

1) Remove the top and bottom covers and the front panel (see items 2, 3 and 4 in the section on case removal.)
2) Disconnect the connector.
3) Release the 5 upper and lower stoppers.

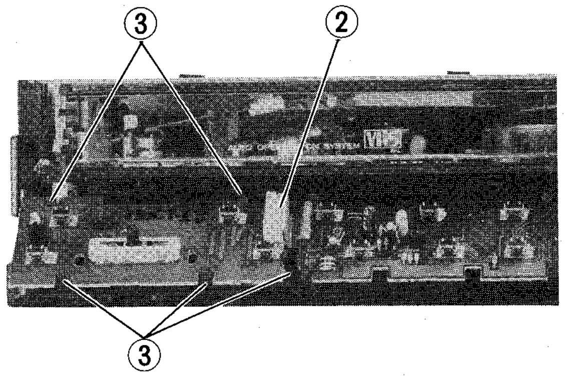


Fig. 2 Operation Switch Circuit Board

3. Timer Input Key Circuit Board (Figs. 3 and 4)

1) Remove the top and bottom covers and the front panel (see items 2, 3 and 4 in the section on case removal.)
2) Disconnect the connector.
3) Release the 7 upper and lower stoppers.
4) Remove the 5 screws.

[Cautions while working]

- * Since the backup capacitor retains its charge for approx. 5 minutes after the AC power lead has been unplugged, press the reset switch to discharge the capacitor.

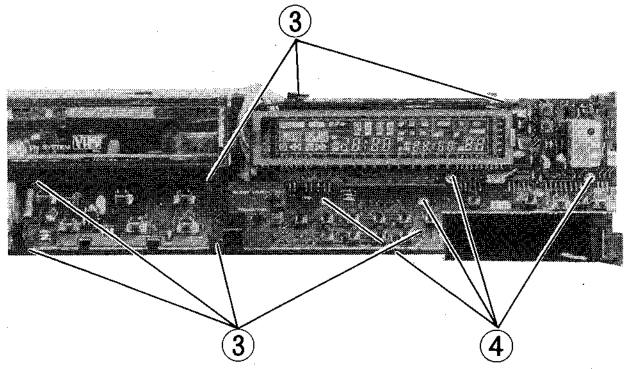


Fig. 3 Timer Input Key Circuit Board

4. Regulator Circuit Board (Figs. 4 and 5)

1) Remove the top cover (see item 2 in the section on case removal).
2) Remove the 2 screws from the bottom cover.
3) Remove the screw holding the heat sink. Remove the heat sink.
4) Remove the 2 screws on the transformer holder.
5) Lift up in the direction of the arrow.

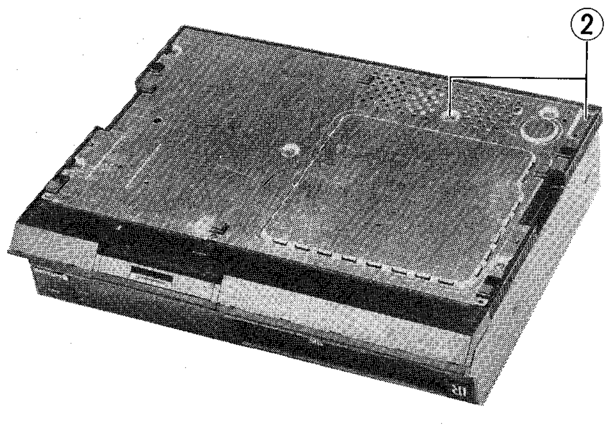


Fig. 4 Bottom Cover

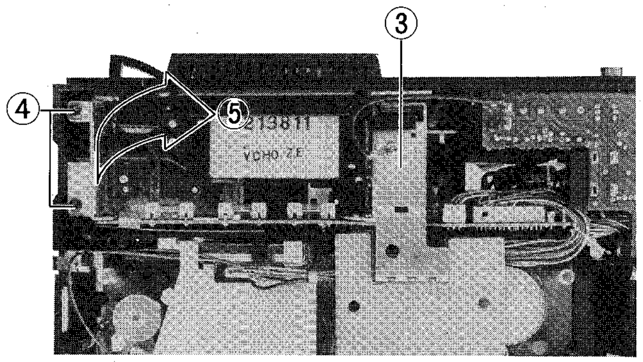


Fig. 5 Regulator Circuit Board

5. Preamp Circuit Board

1) Remove the top cover and the shield cover (see items 2 to 5 in the section on case removal).
2) Pull out and up.

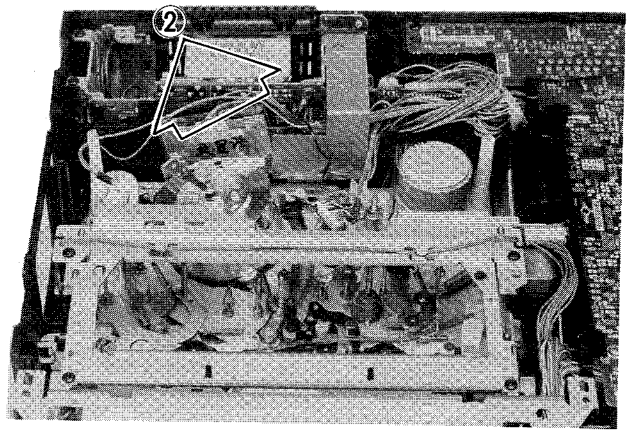


Fig. 6. Preamp Circuit Board

6. VPS Circuit Board

1) Remove the bottom cover (see item 3 in the section on case removal).
2) Remove the 2 screws.

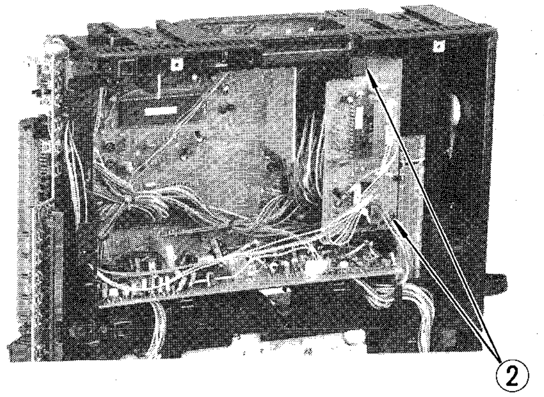


Fig. 7 VPS Circuit Board

5. CASSETTE LOADING MECHANISM REMOVAL

1. **Cassette Door**
2. **Supply End Sensor**
3. **Chassis Holder**

* Components listed below will be described as if the top and bottom covers, front panel and shield cover have already been removed. (See items 2, 3, 4, and 5 in the section on case removal.)

4. **Cassette Loading Mechanism**
5. **Gear Cover**
6. **Door Arm**
7. **Drive Gear (L)**
8. **Motor Block**
9. **Cassette Loading Motor**
10. **Drive Gear (R)**
11. **Cassette Holder**

1. Cassette Door

1) Remove the top and bottom covers and the front panel (see items 2, 3 and 4 in the section on case removal).
2) Push and spread apart the front holder in the direction indicated by the arrow. Remove the cassette door.

[Cautions during reassembly]

* Make sure the pin on the door arm fit into the groove in the cassette door.

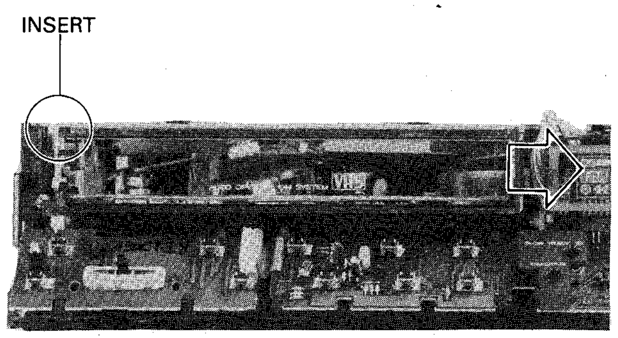


Fig. 1 Cassette Door

2. Supply End Sensor

1) Remove the top cover (see item 2 in the section on case removal).
2) Release the stopper.

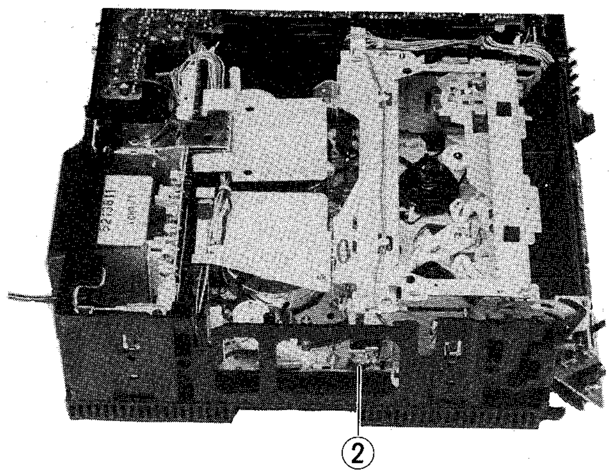


Fig. 2 Supply End Sensor

3. Chassis Holder

1) Remove the top and bottom covers (see items 2 and 3 in the section on case removal).
2) Remove the supply end sensor (see item 2).
3) Release the supply end sensor cord from the chassis holder.
4) Remove the 4 screws.

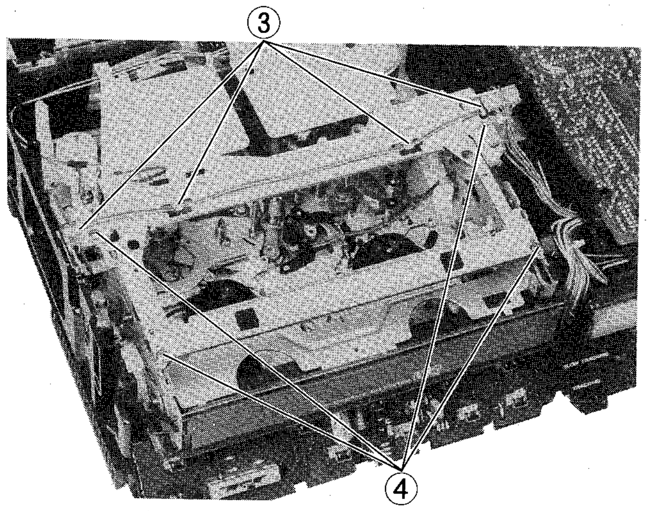


Fig. 3 Chassis Holder

4. Cassette Loading Mechanism

1) Push the reinforcing plate in the direction of the arrow, and lift upward.
2) Disconnect the connector.
3) Remove the 2 screws.
4) Lift the rear end of the mechanism upwards and release the engagement fitting on the bottom front.

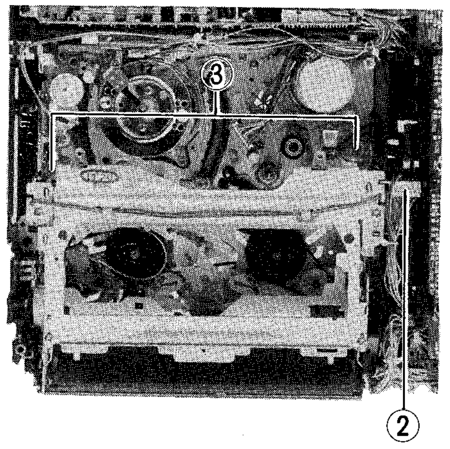


Fig. 4 Cassette Loading Mechanism

5. Gear Cover

1) Remove the cassette loading mechanism (see item 4).
2) Lift section (A) up slightly. Then pull the entire gear cover unit forward.

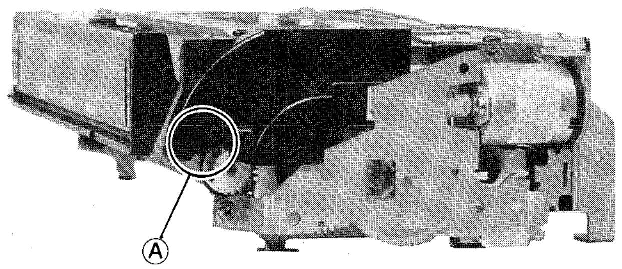


Fig. 5 Gear Cover

6. Door Arm

1) Remove the cassette loaidng mechanism (see item 4.)
2) Remove the spring.
3) Release the 2 stoppers.

[Cautions during reassembly]

* Insert the pin on the front edge of the door arm into the groove in the cassette door.

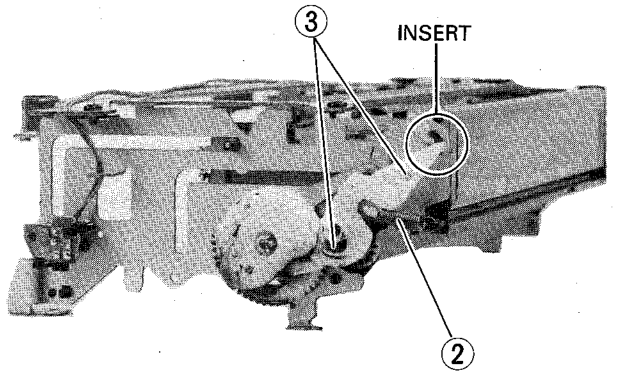


Fig. 6 Door Arm

7. Drive Gear (L)

1) Remove the cassette loading mechanism and the door arm (see items 4 and 6).
2) Release the stopper and pull out the drive gear (L).

[Cautions during reassembly]

* Align the triangular mark on the drive gear (L) with the triangular mark on the synchro gear (L).

* Insert the pin on the cassette holder into the groove in the drive arm.

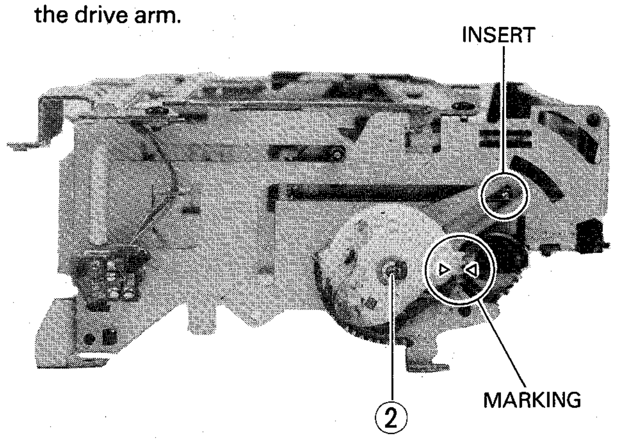


Fig. 7 Drive Gear (L)

8. Motor Block

1) Remove the cassette loading mechanism, the gear cover, the supply end sensor and the chassis holder (see items 4, 5, 2 and 3).
2) Remove the 2 screws holding the motor block.

[Cautions during reassembly]

- * Place the cassette holder in the unloaded position (prior to cassette insertion). Align the triangular markings on the synchro gear and the clutch gear.
- * Insert the slide pin on the cassette holder into the groove in the clutch gear's drive arm.

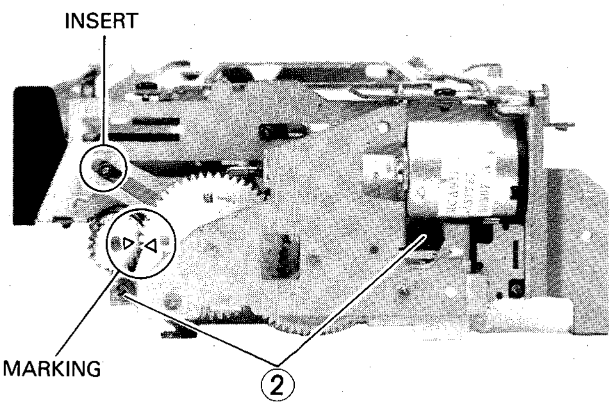


Fig. 8 Cassette Loading Motor Block

9. Cassette Loading Motor

1) Remove the cassette loading mechanism, the gear cover, the supply end sensor, the chassis holder and the motor block (see items 4, 5, 2, 3 and 8).
2) Remove the 2 screws holding the cassette loading motor.

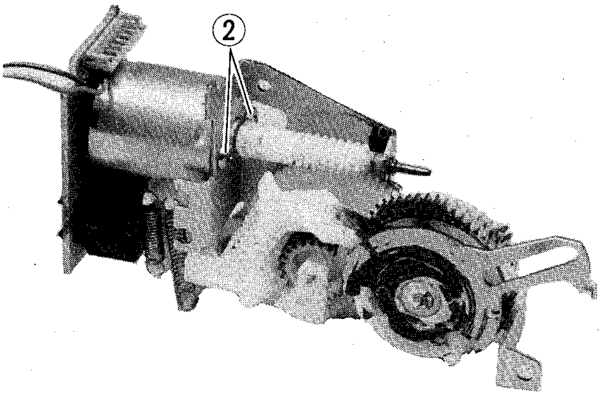


Fig. 9 Cassette Loading Motor

10. Drive Gear (R) (Figs. 10, 11 and 12)

1) Remove the cassette loading mechanism, the gear cover, the supply end sensor, the chassis holder and the motor block (see items 4, 5, 2, 3 and 8).
2) Remove the 2 springs. Pull the switch lever out.
3) Turn the drive arm counterclockwise and pull the clutch gear out.
4) Release the stopper. Pull out another gear.
5) Remove the screw holding the gear holder.

[Cautions during reassembly]

- * Position the triangular marking on the drive gear (R) so that it faces the worm gear. (See Fig. 11). The (○) and triangle can also be seen from the outside so that correct position can be checked after reassembling the motor block. (See Fig. 12)
- * Align marking (▷) on drive gear (R) with projection (⧁) on the clutch gear. (See Fig. 11)
- * Attach the spring on the clutch gear to both gears (See Fig. 11)

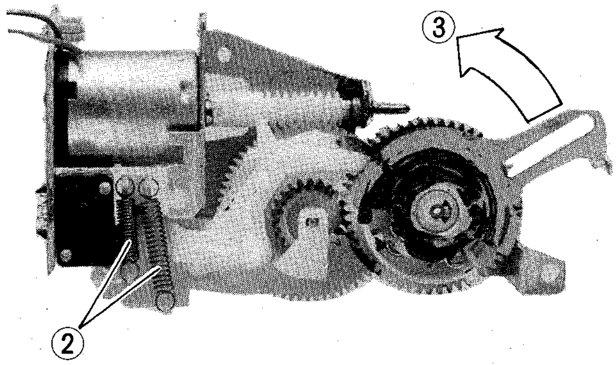


Fig. 10 Drive Gear (I)

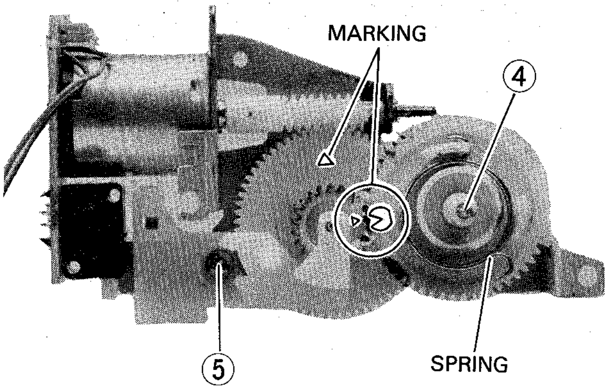


Fig. 11 Drive Gear (II)

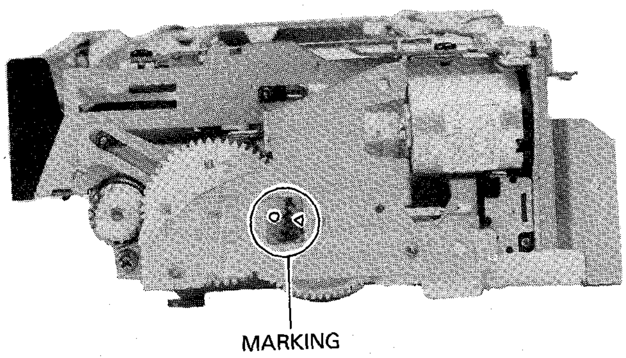


Fig. 12 Marking on Gear

11. Cassette Holder

1) Remove the cassette loading mechanism, the gear cover, the supply end sensor, the chassis holder and the motor block (see items 4, 5, 2, 3 and 8).
2) Remove the screw on top of the front holder. Remove the side chassis (R).

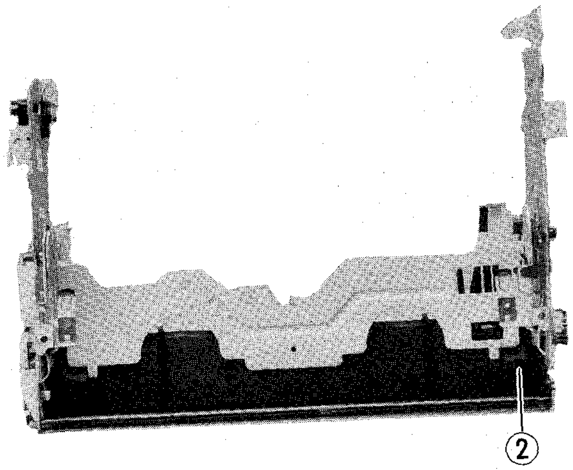


Fig. 13 Cassette Holder

6. MAIN MECHANICAL COMPONENTS REMOVAL

Heads

1. Upper Cylinder (Video Heads)
2. Impedance Roller and FE (Full Erase) Head
3. A/C (Audio Control) Head

Motors

4. Cylinder Assembly
   Rotor Magnet
   FG Coil
5. Capstan Motor
6. Loading Motor

Sensors, Switches

7. End Lamp
8. Reel Sensor
9. Mechanism State Switch
10. Safety Tab Switch

Others

11. Main Brake
12. Subbrake
13. Supply Guide Pole
14. Take-up Guide Pole
15. Reel Drive Gear
16. Take-up Reel Disk
17. Load Pulley
18. Tension Arm/Tension Band
19. Guide Roller
20. Supply Reel Disk
21. Pressure Roller
22. Arm Bracket
23. Guide Base and Loading Link
24. Clutch Plate Assembly
25. Capstan Flywheel
26. Brake Slider
27. Loading Gear Assembly

1. Upper Cylinder (Video Heads) (Figs. 1 and 2)

1) Remove the top cover and shield cover (see items 2 and 5 in the section on case removal)
2) Remove the screw holding the brush. Remove the earth brush.
3) Remove the 2 screws holding the upper cylinder. Pull the upper cylinder out.

[Cautions while working]

- * Since the upper cylinder has connectors, do not apply pressure in the direction of rotation. Pull the cylinder vertically upward in the direction of cylinder attachment.
- * Do not touch the video head tips with fingers or tools.

[Cautions during reassembly]

- * Insert so that the arrow on the rotary transformer matches the blue side of the video head connector.
- * Alternately tighten the 2 screws holding the upper cylinder.

[Adjustments after reassembly]

○ Adjustments after replacing the cylinder

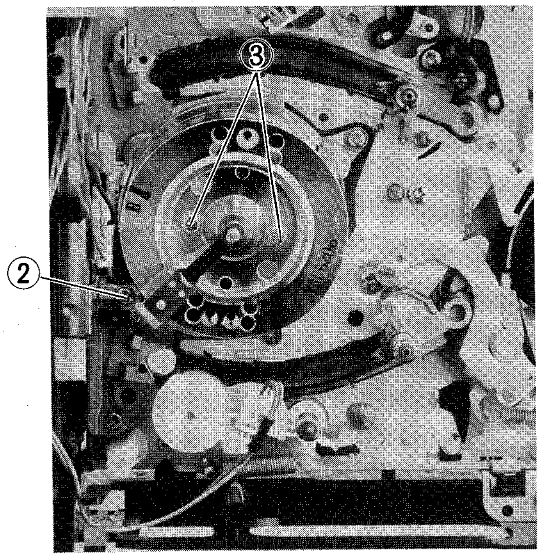


Fig. 1 Video Head

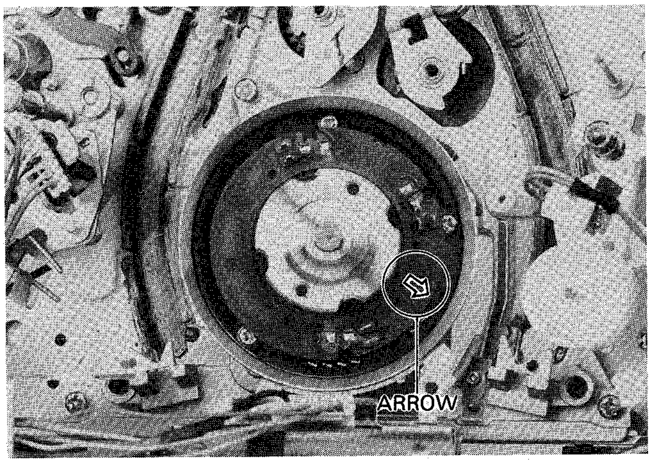


Fig. 2 Rotary Transformer

2. Impedance Roller and FE (Full Erase) Head

1) Remove top cover and shield cover (see items 2 and 5 in the section on case removal).
2) Disconnect the connector.
3) Remove the spring attached between the FE head base and the chassis.
4) Remove the lock nut on the guide pole and then pull the guide pole, spring and washer out.
5) Pull up the FE head together unit the base and out.
6) Then with the FE head removed, remove the screw on the back of the base.

[Adjustments after reassembly]

○ Guide pole height adjustment

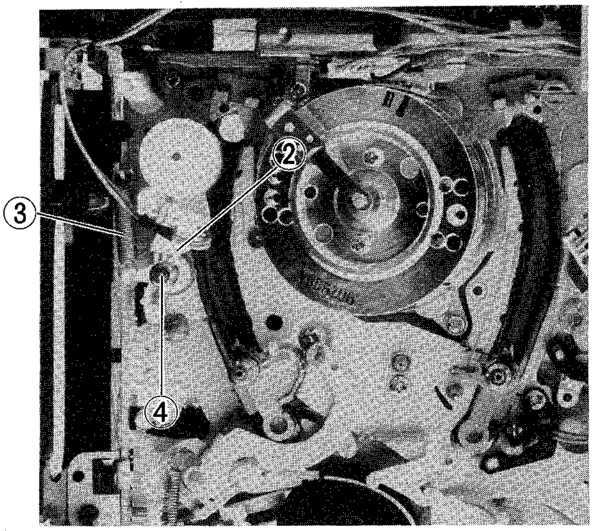


Fig. 3 FE Head

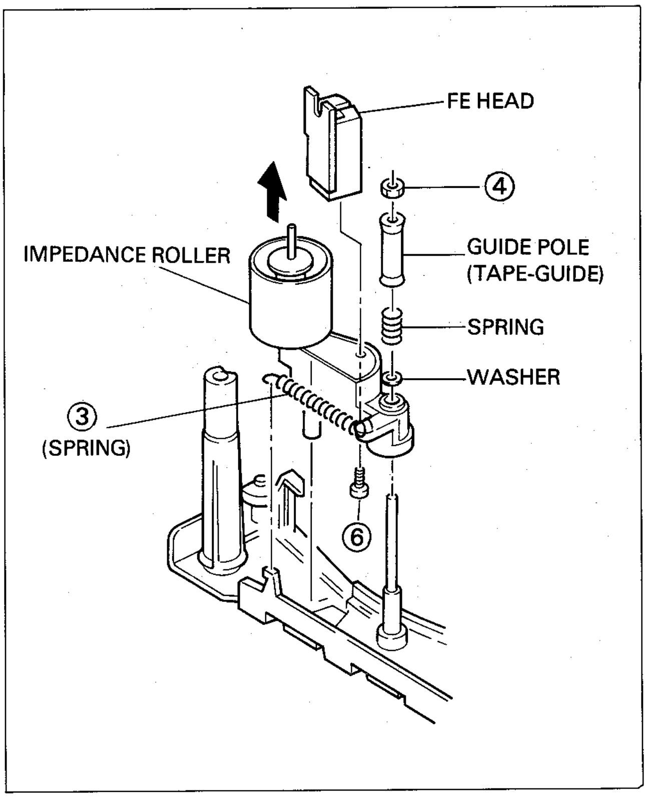


Fig. 4 FE Head

3. A/C (Audio/Control) Head (Figs. 5 and 6)

1) Remove the top cover (see item 2 in the section on case removal).
2) Pull out the connector.
3) Remove the lock nut and washer from the head base. Pull up the base and out.
   * Apply the bottom of the spring under the head base to the stopper on the chassis, the top of the spring to the stopper on the base. (Fig. 6)

[Cautions during reassembly]

* Make sure the tip of the A/C head lock screw protrudes 3 to 4 mm from the top surface of head base 1.

* Make sure that head base 1 and head base 2 are parallel.

[Adjustments after reassembly]

○ A/C head adjustment
○ X value adjustment
○ Audio playback level adjustment
○ Audio bias level adjustment

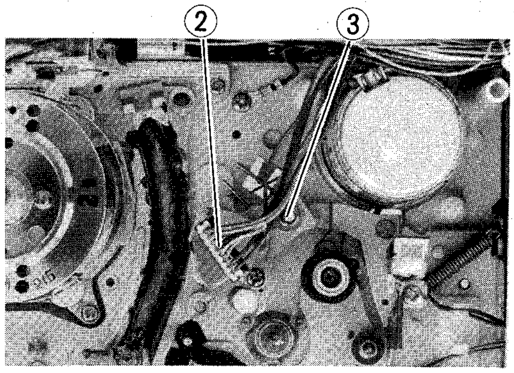


Fig. 5 AC Head

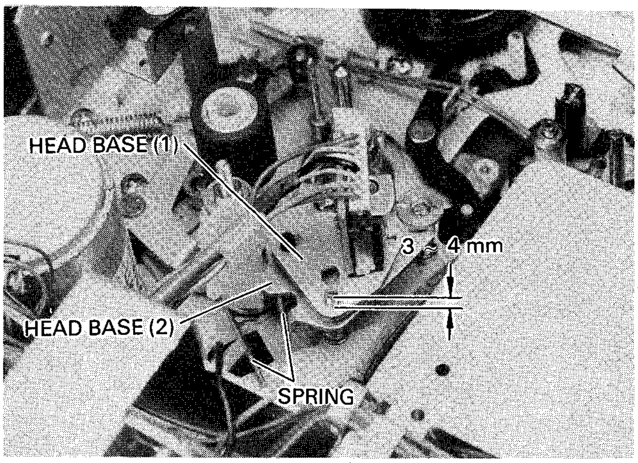


Fig. 6 Spring and Lock Screw

4. Cylinder Assembly

1) Remove the top cover and shield cover (see items 2 and 5 in the section on case removal).
2) Pull out the preamp circuit board.
3) Remove the bottom cover (see item 3 in the section on case removal.)
4) Disconnect the connector from the FG circuit board.
5) Remove the 3 screws holding the cylinder.
6) Remove the cylinder assembly from the top.

[Cautions during reassembly]

* Since the screws position on the back of the assembly, place the unit with the left side down to remove the screws.

* Do not touch the video head tips with fingers or tools.

[Adjustments after reassembly]

○ Adjustments after replacing the cylinder

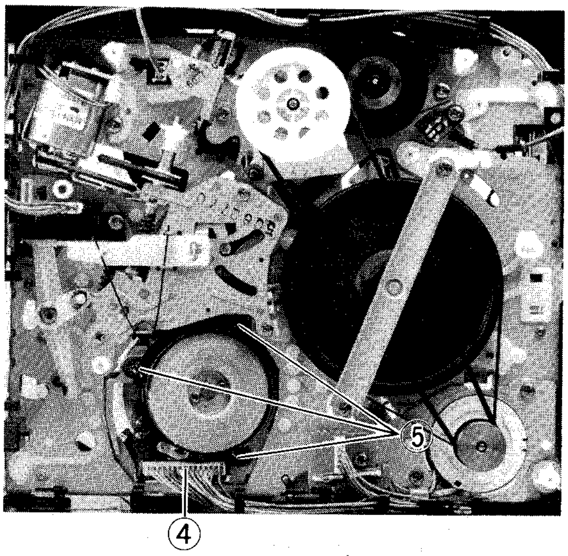


Fig. 7 Cylinder Assembly

[Removing only the rotor magnet and FG coil]
(Figs. 8 and 9)

a) Remove the bottom cover (see item 3 in the section on case removal).
b) Remove the 2 screws on the rotor. Pull the rotor magnet out.
c) Remove the 3 screws holding the FG coil.

[Cautions during reassembly]

* Fit the slot on the cylinder rotating spindle into the protrusion on the rotor side, then lock the rotor magnet with the screws.

[Adjustments after reassembly]

○ Switching point adjustment

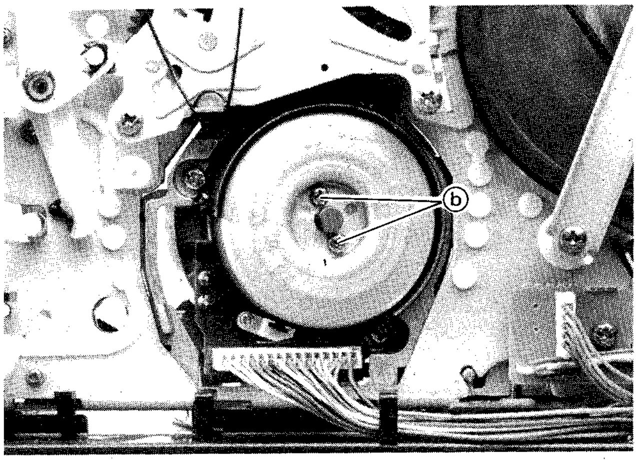


Fig. 8 Rotor Magnet

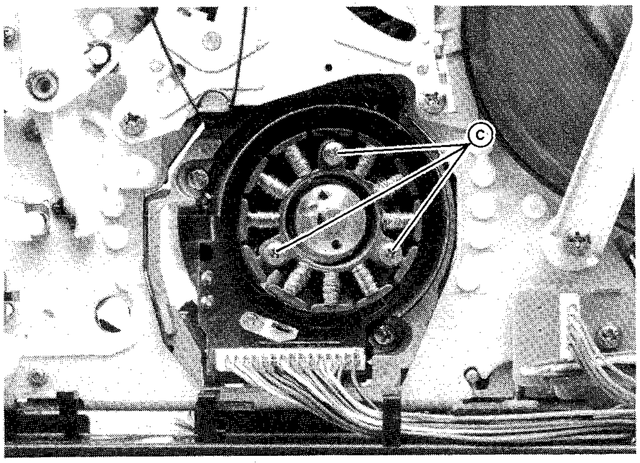


Fig. 9 FG Coil

5. Capstan Motor

1) Remove bottom cover (see item 3 in the section on case removal).
2) Remove the reel belt.
3) Remove the flywheel belt.
4) Disconnect the connector from the capstan motor circuit board.
5) Remove the 2 screws holding the capstan motor holder. Pull out the capstan motor holder.

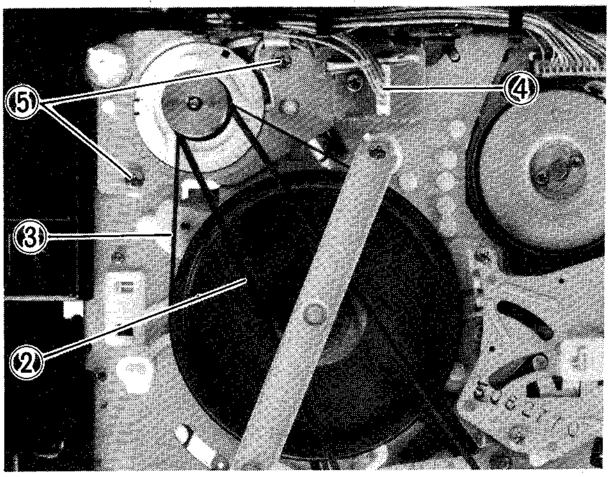


Fig. 10 Capstan Motor

6. Loading Motor

1) Remove the bottom cover (see item 3 in the section on case removal.)
2) Remove the loading belt.
3) Disconnect the connector from the loading motor circuit board.
4) Remove the screw holding the loading motor.

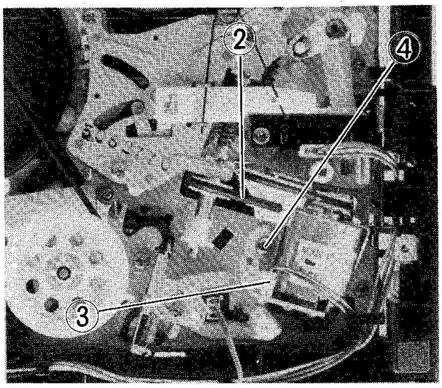


Fig. 11 Loading Motor

7. End Lamp (Fig. 13)

1) Remove the top cover (see item 2 in the section on case removal).
2) Remove the screw holding the end lamp.

8. Reel Sensor (Fig. 12)

1) Remove the bottom cover (see item 3 in the section on case removal).
2) Remove the screw holding the reel sensor.

9. Mechanism State Switch (Fig. 12)

1) Remove the bottom cover (see item 3 in the section on case removal).
2) Disconnect the connectors
3) Remove the screw holding the mechanism state switch.

[Adjustments after reassembly]

○ Mechanism state switch adjustment

10. Safety Tab Switch (Figs. 12 and 13)

1) Remove the top and bottom covers (see items 2 and 3 in the section on case removal).
2) Disconnect the connector from the bottom side.
3) Remove the screw holding the safety tab switch.

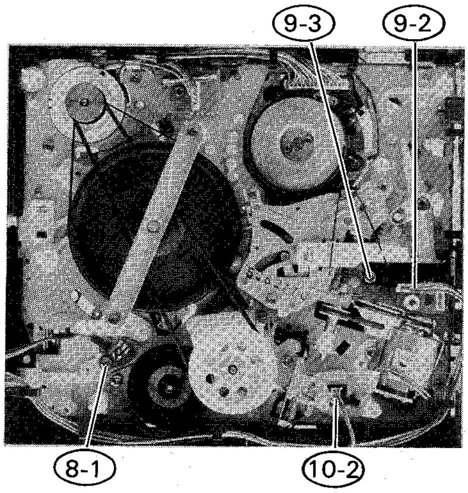


Fig. 12 Bottom View of Mechanism

* Components in items 11 to 17 are described as if the top cover has already been removed. See item 2 in the section on case removal.

11. Main Brakes (Fig. 13)

1) Remove the spring between the supply and take-up brakes.
2) Release each section engaged with the chassis.

12. Supply Subbrake (Fig. 13)

1) Remove the spring between the subchassis and the brake.
2) Release the section engaging the brake spindle.

13. Supply Guide Pole (Fig. 13)

1) Remove the screw holding the guide pole.

[Cautions during reassembly]

* Make sure the washer and spring are inserted in the guide pole attachment shaft.

[Adjustments after reassembly]

○ Guide pole height adjustment

14. Take-up Guide Pole (Fig. 13)

1) Remove the cap. Remove the screw holding the guide pole.

[Cautions during reassembly]

* Make sure the spring is inserted in the guide pole attachment shaft.

[Adjustments after reassembly]

○ Guide pole height adjustment

15. Reel Drive Gear (Fig. 13)

1) Push the spring holder in the direction of arrow to pull the spring holder up and out.

16. Take-up Reel Disk (Fig. 13)

1) Remove the rubber belt across the load pulley and reel disk.
2) Remove the washer from the top of the disk.

[Cautions during reassembly]

* Make sure the washer is inserted in the reel disk attachment shaft.

[Adjustments after reassembly]

○ Reel disk height adjustment

17. Load Pulley (Fig. 13)

1) Remove the rubber belt across the pulley and the reel disk.
2) Remove the washer from the top of the pulley.

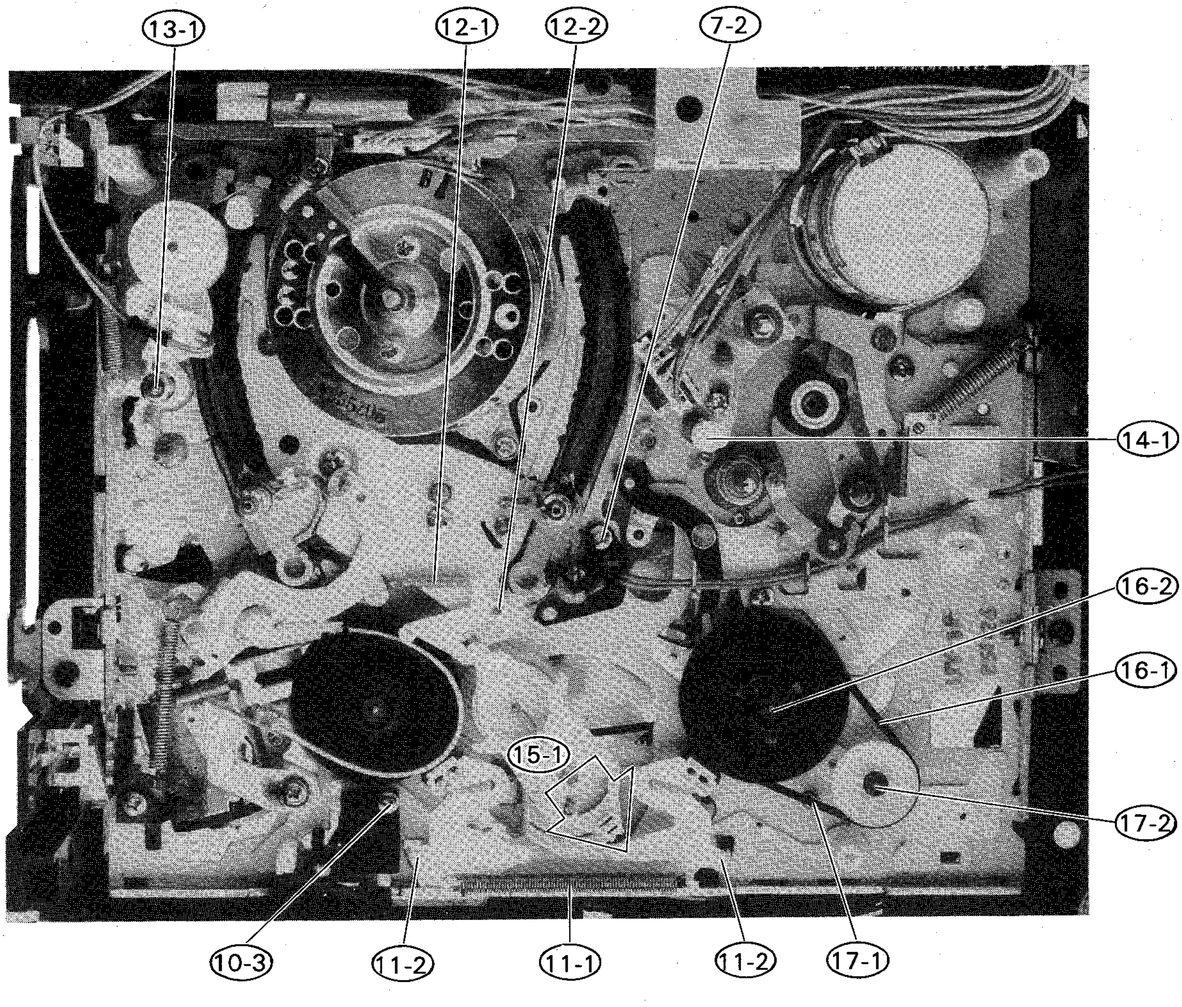

13-1
12-1
12-2
7-2
14-1
16-2
16-1
15-1
17-2
10-3
11-2
11-1
11-2
17-1

Fig. 13 Top View of Mechanism

* Components in items 18 to 23 are described as if the top and bottom covers, the front panel, the shield cover, and cassette loading mechanism have already been removed. See item 4 in the section on cassette loading mechanism removal and items 2, 3, 4 and 5 in the section on case removal.

18. Tension Arm/Tension Band (Fig. 14)

1) Remove spring (18-1) across the tension arm and spring holder.
2) Remove the screw holding the tension band.
3) Release the engagement section with the tension arm. Pull out the tension arm and tension band.

[Adjustments after ressembly]

○ Tension/tension pole position Adjustments

19. Guide Roller (Fig. 14)

* Remove the supply and take-up sides in the same way.

1) Loosen the hex lock nut on the guide roller.
2) Turn the guide roller counterclockwise to remove.

[Adjustments after reassembly]

○ Guide roller height adjustment

20. Supply Reel Disk (Fig. 14)

1) Remove the supply subbrake and tension arm/tension band (see items 12 and 18).
2) Remove the washer from the top of the disk.

[Cautions during reassembly]

* Make sure the washer and collar are inserted in the reel disk attachment shaft.

[Adjustments after reassembly]

○ Tension/tension pole position Adjustments
○ Reel disk height adjustment

21. Pressure Roller (Fig. 14)

1) Remove washer.

22. Arm Bracket Assembly (Fig. 14)

1) Remove the take-up reel disk and pressure roller (see items 16 and 21).
2) Release the 2 leads from the chassis.
3) Remove the 2 screws. Pull out the arm bracket assembly.

[Cautions during reassembly]

* Insert operation arm spindle into slot in take-up brake operation arm.
* Insert drive arm spindle into slot in link piece.

23. Guide Base/Loading Link (Fig. 14)

1) Remove supply subbrake and tension band/tension arm. (See items 12 and 18)
2) Remove the 3 screws holding the subchassis. Remove the subchassis and guide base.

[Cautions during reassembly]

* When reinstaling the loading link, make sure that the projection on the loading gear is aligned with the groove in the loading link.
* When reinstalling the guide base, make sure that the pin on the back of the guide base is inserted into the slot in the loading link.

[Adjustments after reassembly]

○ Tension/tension pole position Adjustments

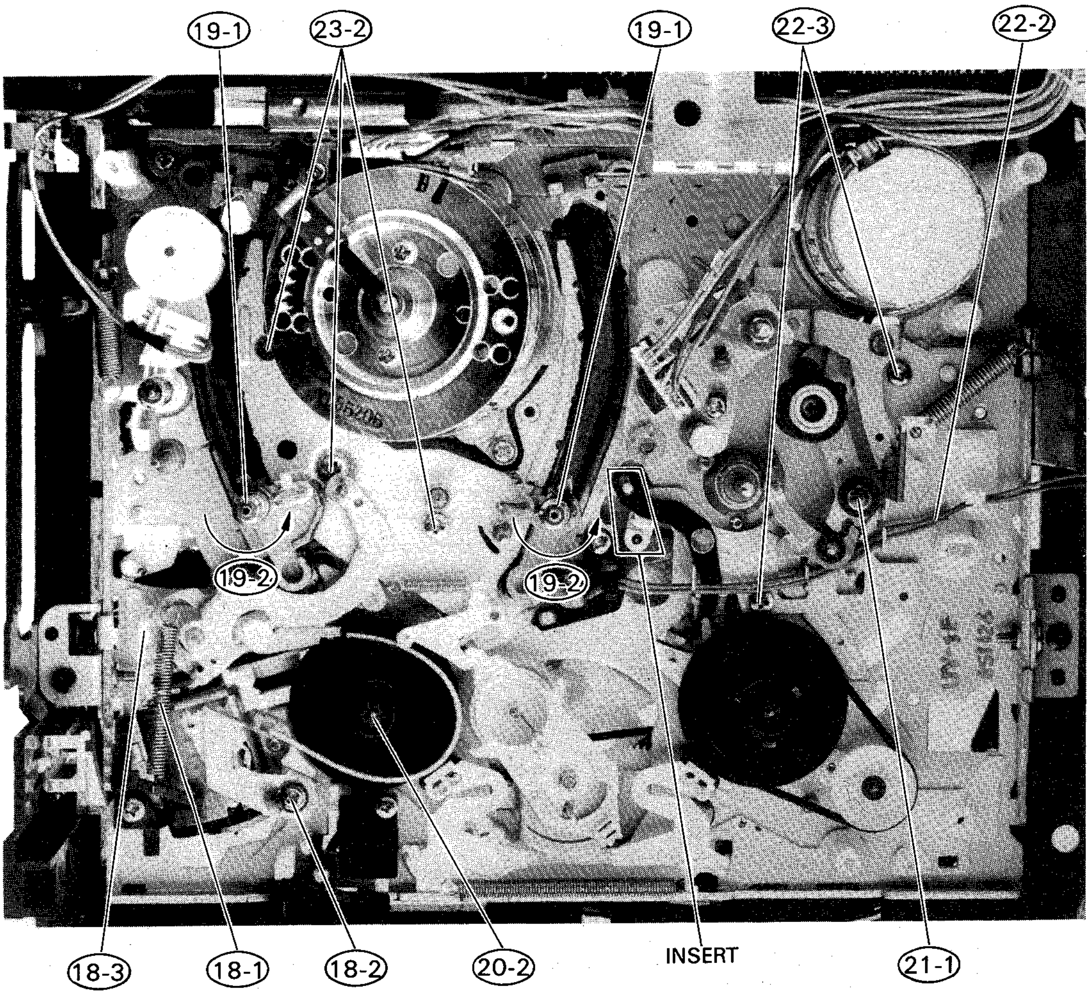

19-1
23-2
19-1
22-3
22-2
19-2
19-2
18-3
18-1
18-2
20-2
INSERT
21-1

Fig. 14 Top View of Mechanism

* Components in items 24 to 26 are described as if the top and bottom covers have already been removed. (See items 2 and 3 in the section on case removal)

24. Clutch Plate Assembly (Fig. 15)

1) Remove the reel drive gear (see item 15).
2) Remove reel belt.
3) Remove the 2 screws holding the clutch plate assembly.

25. Brake Slider (Fig. 15)

1) Remove the reel drive gear and clutch plate assembly (See items 15 and 24).
2) Remove the screw holding the brake slider.

[Cautions during reassembly]

* Make sure the pin on the brake drive arm is inserted into the groove on the slider operating section.

26. Capstan Flywheel (Fig. 15)

1) Remove the 2 screws holding the flywheel retainer bar. Remove the flywheel retainer bar.
2) Remove the nylon washer from the top of the capstan shaft.
3) Remove the reel belt and flywheel belt. Remove the flywheel.

[Cautions during reassembly]

* Make sure the washer is inserted between the bottom side of the chassis and the flywheel.

[Adjustments after reassembly]

○ Reference oscillation frequency adjustment

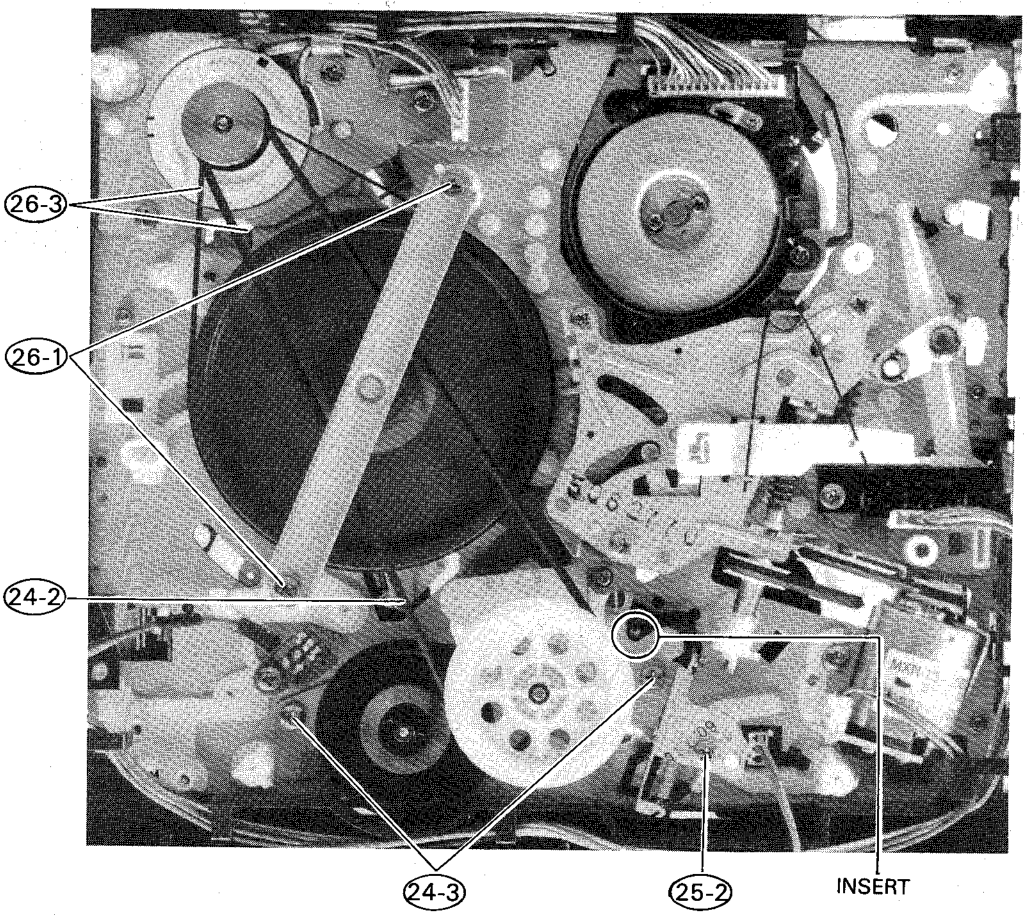


Fig. 15 Bottom View of Mechanism

27. Loading Gear Assembly (Figs. 16 and 17)

1) Remove the top and bottom covers (see items 2 and 3 in the section on case removal).

Top Side

2) Remove the 2 screws from the top of the subchassis.
3) Remove the reel drive gear. (See item 15)

Bottom Side

4) Remove the mechanism state switch, clutch plate assembly, brake slider and capstan flywheel. (See items 9, 24, 25 and 26.)
5) Remove the spring and switch slider from the loading gear assembly.
6) Remove tension release arm.
7) Remove loading belt.
8) Remove the 3 screws holding the loading gear assembly.

[Cautions during reassembly]

- * Insert the pin on the take-up subbrake drive arm into the slot on the take-up subbrake operation arm.
- * Insert the pin on the pressure roller drive arm into the slot on the pressure roller operation arm.

[Adjustments after reassembly]

○ Mechanism state switch adjustment

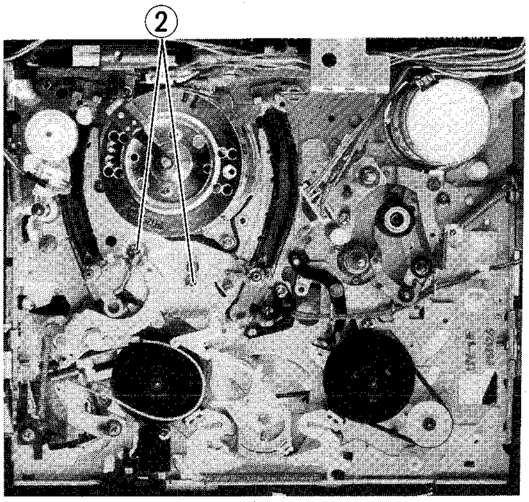


Fig. 16 Top View of Mechanism

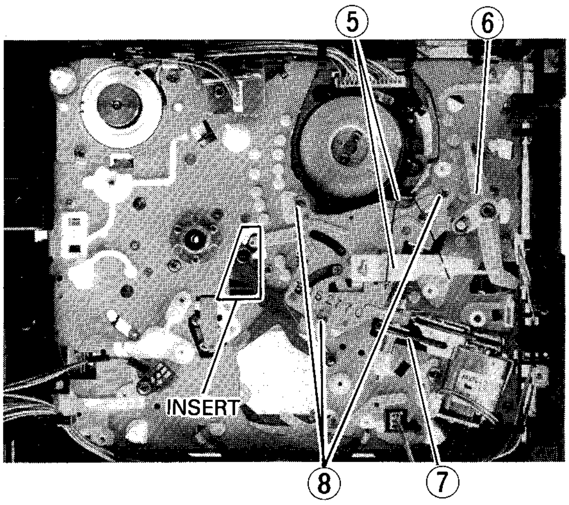


Fig. 17 Loading Gear Assembly
(with items in 9, 24, 25 and 26 removed)

ELECTRIC CIRCUIT ADJUSTMENT

Test equipment and tapes necessary for adjustment.

1) Oscilloscope
2) Colour bar generator
3) VTVM
4) Frequency counter
5) Monitor TV
6) Alignment tape
7) Blank tape

Cautions on adjustments

1) If there are no special instructions, the following conditions apply:
   - ○ Oscilloscope probe: 10 : 1
   - ○ Oscilloscope synchronization: Auto-Sync
   - ○ Tracking control: center click.
2) When making more than one adjustment, make those adjustments in the order listed.

Resetting microprocessors

All microprocessors installed in the unit will be reset once the AC power lead is removed from the wall socket. However, the timer microprocessor's back-up circuit keeps it from resetting until about five minutes after power off.

The timer microprocessor can be reset by switch S759 on the timer circuit board. (Switch S759 can be operated by inserting a screwdriver into the round slot adjacent to the PRESET switch even when the front panel is attached.)

Adjust the main circuit board (servo and audio circuits) with the main circuit board open as show in Fig. 1.

Adjust the Y/chroma circuit board with the left side down and the circuit board open as show in Fig. 2.

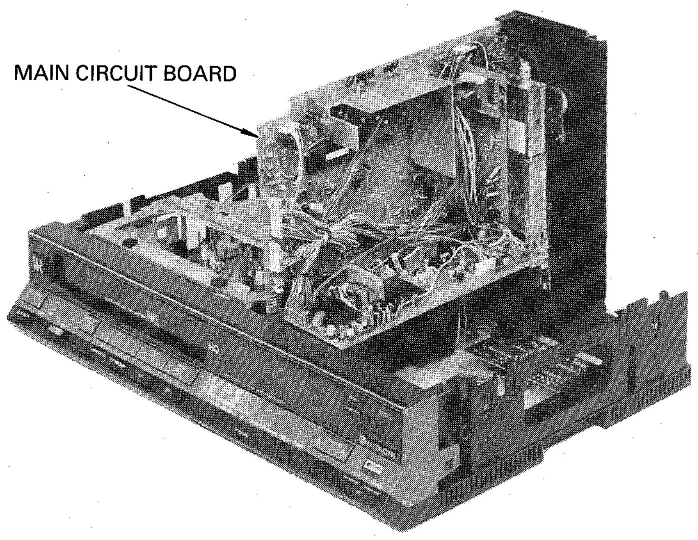

MAIN CIRCUIT BOARD

Fig. 1 Ready to Adjust Main Circuit Board

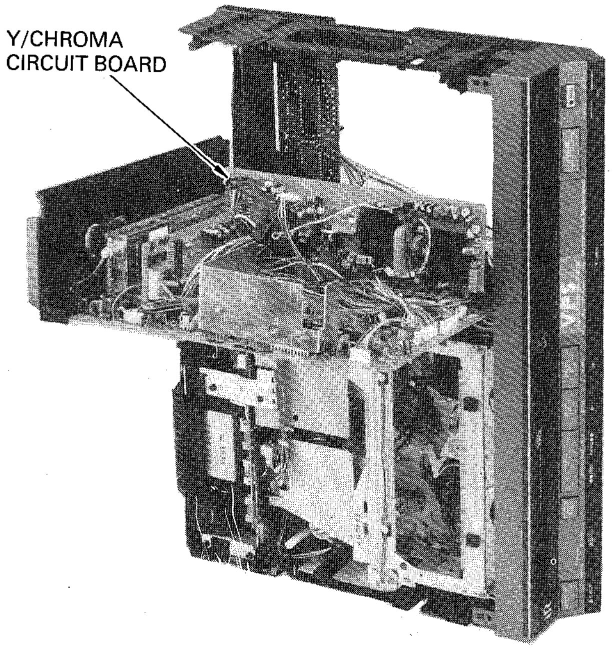

Y/CHROMA
CIRCUIT BOARD

Fig. 2 Ready to Adjust Y/Chroma circuit Board

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* See item 1 in chapter 2 on circuit board removal, for details on main circuit board removal.

COMPONENTS LOCATIONS ON CIRCUIT BOARDS

VT-125E (VPS)

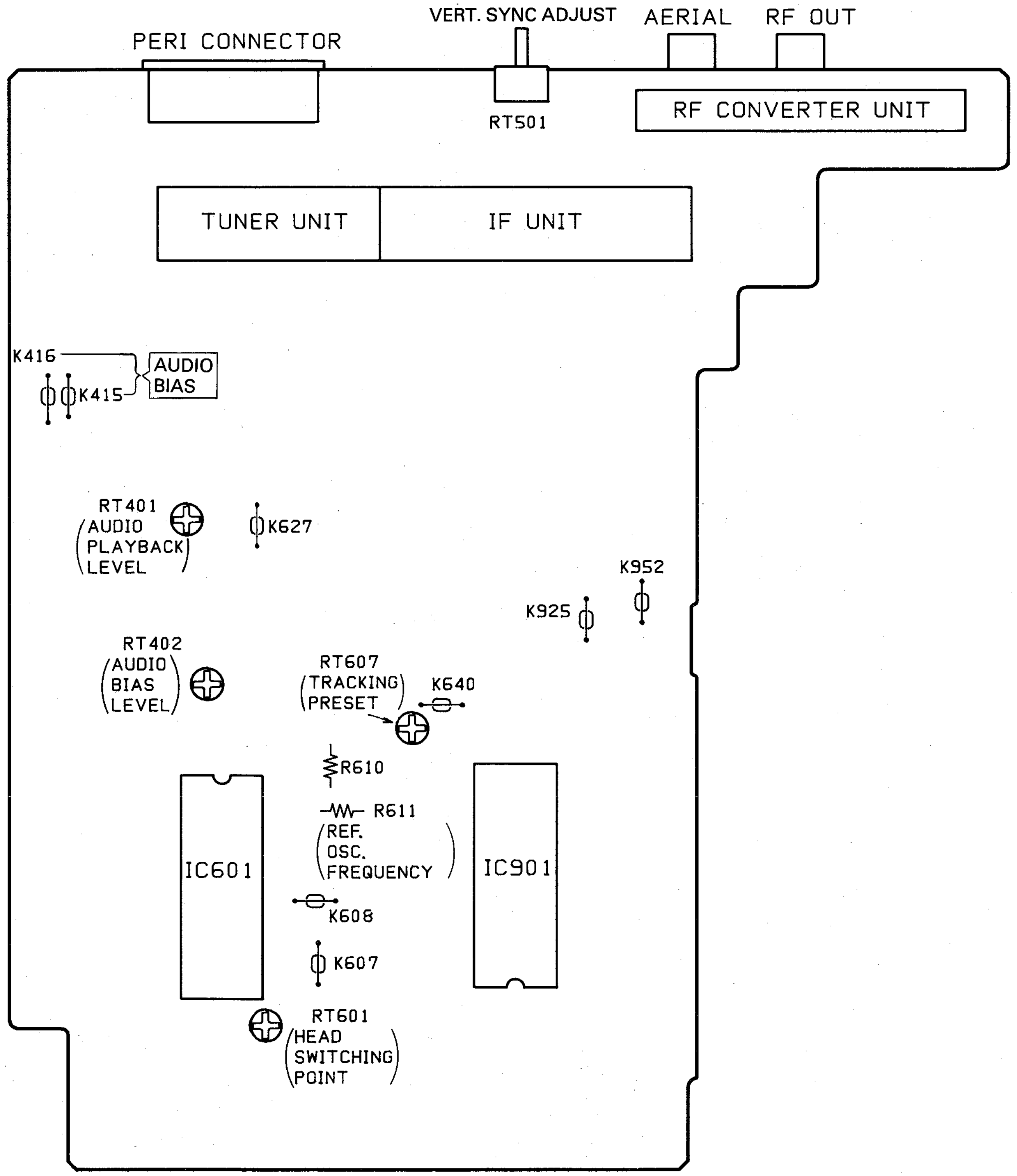

PERI CONNECTOR
VERT. SYNC ADJUST
AERIAL
RF OUT
RT501
RF CONVERTER UNIT
TUNER UNIT
IF UNIT
K416
K415
AUDIO
BIAS
RT401
AUDIO
PLAYBACK
LEVEL
K627
K952
K925
RT402
AUDIO
BIAS
LEVEL
RT607
TRACKING
PRESET
K640
R610
R611
REF.
OSC.
FREQUENCY
IC601
IC901
K608
K607
RT601
HEAD
SWITCHING
POINT

Fig. 3 Components on Main Circuit Board (Component Side)

COMPONENTS LOCATIONS ON CIRCUIT BOARDS

VT-135E (VPS)

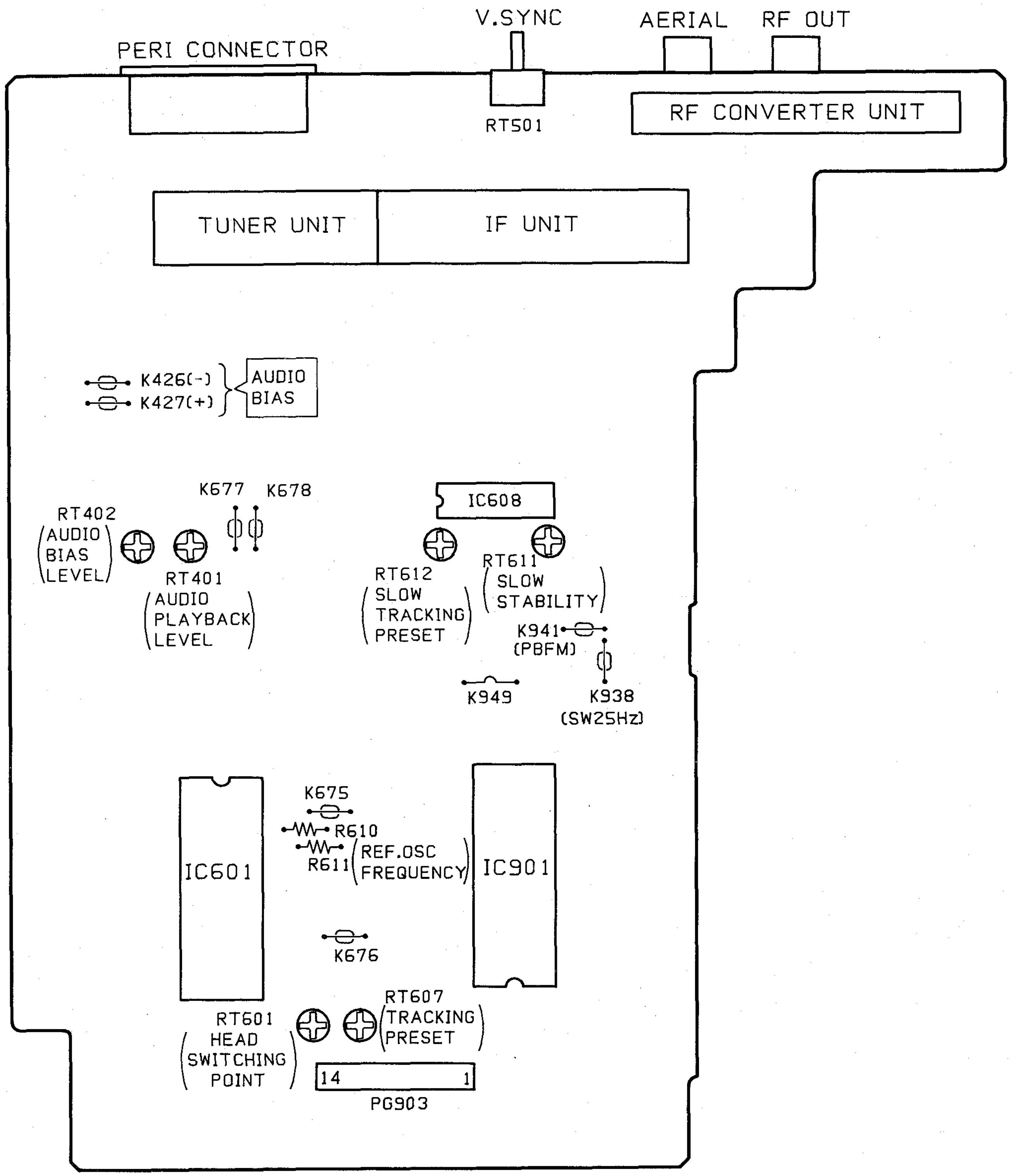

PERI CONNECTOR
V.SYNC
AERIAL
RF OUT
RT501
RF CONVERTER UNIT
TUNER UNIT
IF UNIT
K426(-)
K427(+)
AUDIO BIAS
K677
K678
RT402 AUDIO BIAS LEVEL
RT401 AUDIO PLAYBACK LEVEL
IC608
RT612 SLOW TRACKING PRESET
RT611 SLOW STABILITY
K941 (PBFM)
K949
K938 (SW25Hz)
K675
R610
R611 REF.OSC FREQUENCY
IC601
IC901
K676
RT607 TRACKING PRESET
RT601 HEAD SWITCHING POINT
14
1
PG903

Fig. 3 Components on Main Circuit Board (Component Side)

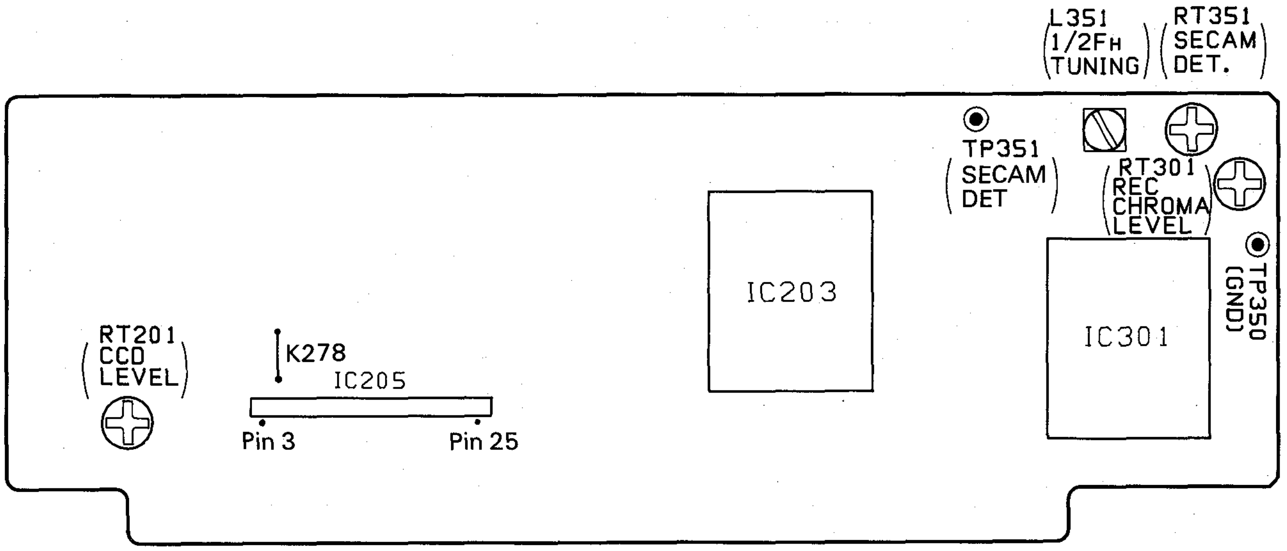

L351 1/2FH TUNING
RT351 SECAM DET.
TP351 SECAM DET
RT301 REC CHROMA LEVEL
TP350 (GND)
IC203
IC301
RT201 CCD LEVEL
K278
IC205
Pin 3
Pin 25

Fig. 4 Components on Y/Chroma Circuit Board (Component Side)

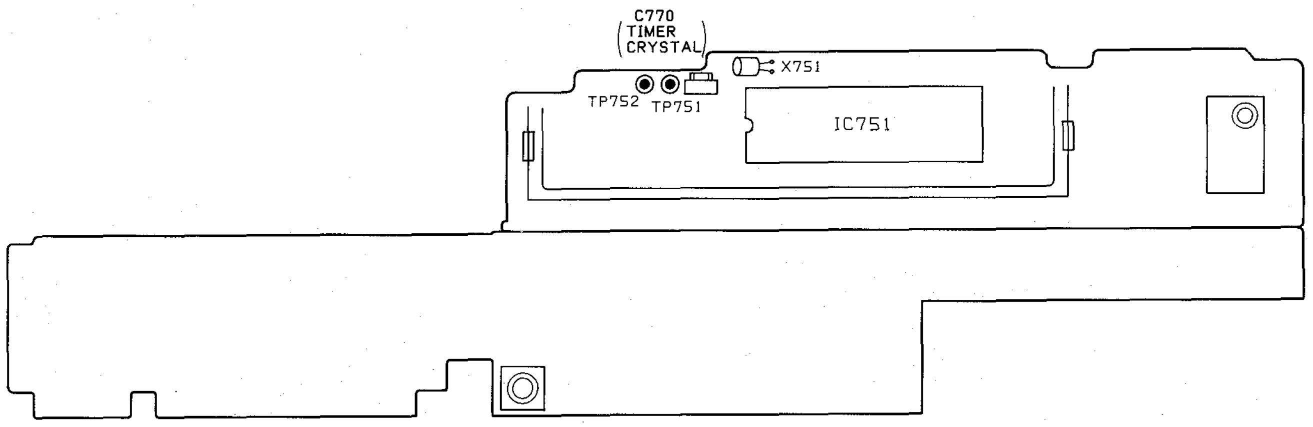

C770 TIMER CRYSTAL
X751
TP752
TP751
IC751

Fig. 5 Components on Timer Circuit Board (Component Side)

1. SERVO CIRCUIT ADJUSTMENTS

1. Reference Oscillation Frequency Adjustment

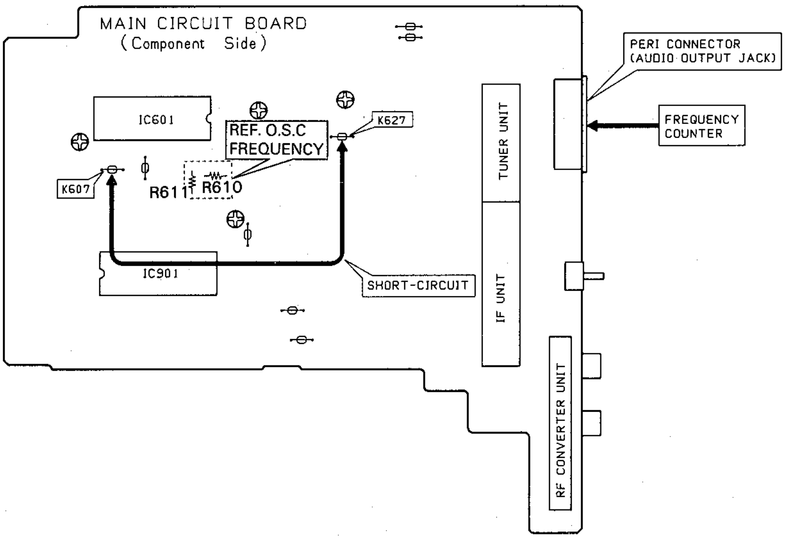
Purpose of adjustment and fault occurring if incomplete

Purpose: Fine tune the reference oscillation frequency (REF25 Hz) in the phase control loop to correct variations in diameters of flywheel, pulley, etc.

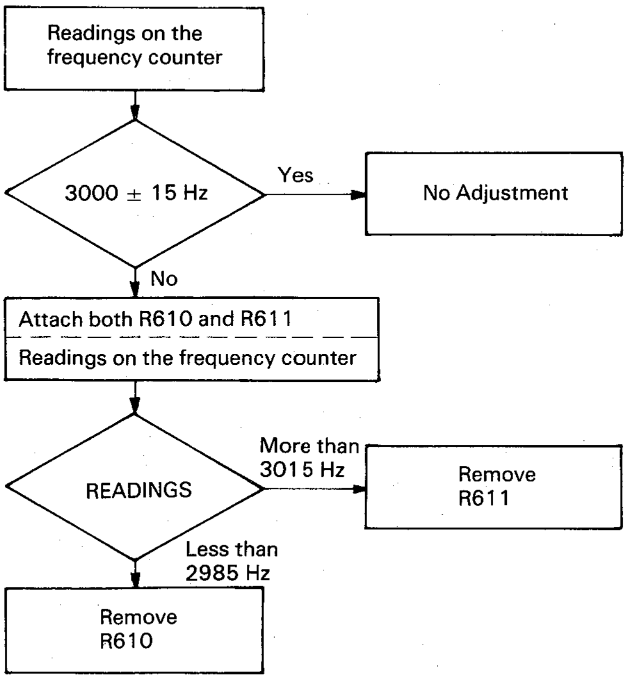
Fault:
- ○ Noise appears in picture.
- ○ Tracking cannot be optimized.

Test Equipment/Jigs	Test Equipment Connection Points	VTR State	Adjustment point
● Frequency counter ● Alignment tape	● Audio output jack	Alignment tape: Play back 3 kHz portion	● R610 (4.7K) ● R611 (3.9K) (REF. O.S.C FREQUENCY)

Connection Diagram


MAIN CIRCUIT BOARD
(Component Side)
IC601
REF. O.S.C FREQUENCY
K627
K607
R611
R610
IC901
SHORT-CIRCUIT
TUNER UNIT
IF UNIT
RF CONVERTER UNIT
PERI CONNECTOR (AUDIO OUTPUT JACK)
FREQUENCY COUNTER

Adjustment Procedure


Readings on the frequency counter
3000 ± 15 Hz
Yes
No Adjustment
No
Attach both R610 and R611
Readings on the frequency counter
READINGS
More than 3015 Hz
Remove R611
Less than 2985 Hz
Remove R610

Note: There are some units in which R610 or R611 is removed when shipped from the factory.

2. Switching Point Adjustment

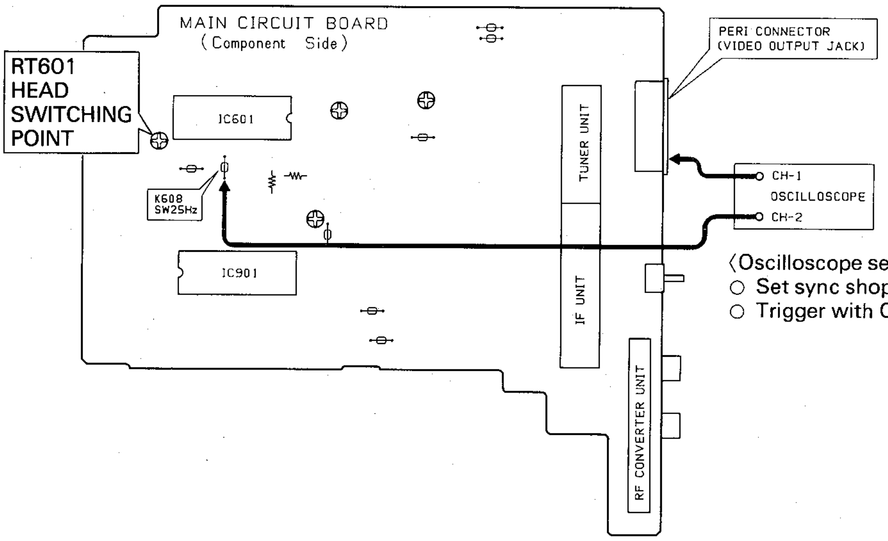
Purpose of adjustment and fault occurring if incomplete

Purpose: Set the video head switching point to almost centre where the CH-1 and CH-2 envelopes overlap each other during playback.

Fault: ○ The vertical sync signal is degraded and vertical jitter occurs.
○ Switching noise occurs in lower part of picture.

Test Equipment/Jigs	Test Equipment Connection Points	VTR State	Adjustment Point
● Oscilloscope ● Alignment tape	● CH-1: video output jack ● CH-2: K608	● Play back alignment tape	● RT601 (HEAD SWITCHING POINT)

Connection Diagram

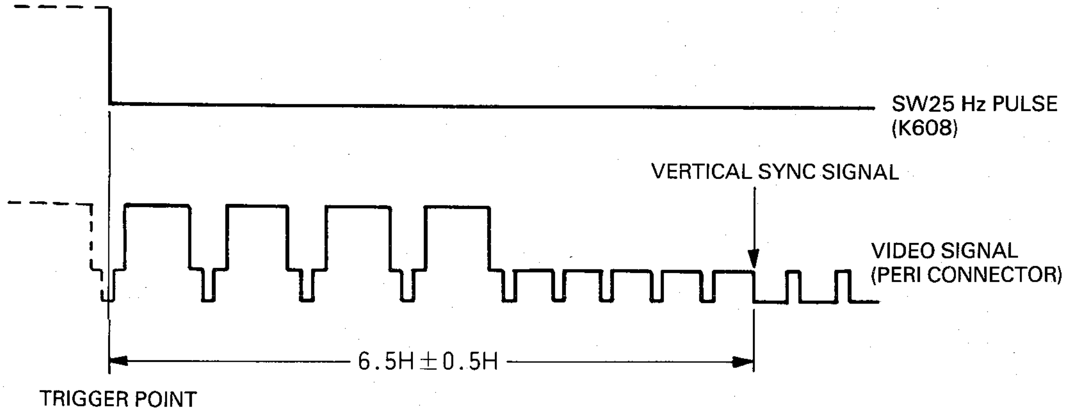

MAIN CIRCUIT BOARD
(Component Side)
RT601
HEAD
SWITCHING
POINT
IC601
K608
SW25Hz
IC901
TUNER UNIT
IF UNIT
RF CONVERTER UNIT
PERI CONNECTOR
(VIDEO OUTPUT JACK)
CH-1
OSCILLOSCOPE
CH-2

〈Oscilloscope settings〉
○ Set sync shope switch to "–"
○ Trigger with CH-2

Adjustment Procedure

Vertical sync signal:
6.5H ±0.5H from trailing edge (trigger point) of SW25 Hz pulse.

Waveform


SW25 Hz PULSE
(K608)
VERTICAL SYNC SIGNAL
VIDEO SIGNAL
(PERI CONNECTOR)
6.5H±0.5H
TRIGGER POINT

3. Tracking Preset Adjustment

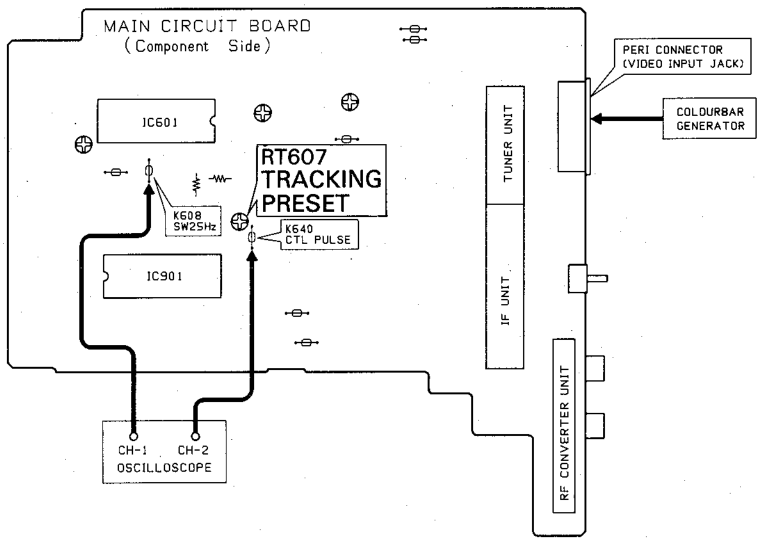
Purpose of adjustment and fault occurring if incomplete

Purpose: Optimize tracking when playing back a tape recorded by this unit.

Fault: ○ Noise occurs even with tracking control centred.
○ Noise cannot be removed by turning the tracking control.

Test Equipment/Jigs	Test Equipment Connection Points	VTR State	Adjustment Point
● Oscilloscope ● Colour bar generator (or receive TV programme) ● Blank tape	● CH-1: K608 ● CH-2: K640	● Record colour bar signal and play it back with this unit.	● RT607 [TRACKING PRESET]

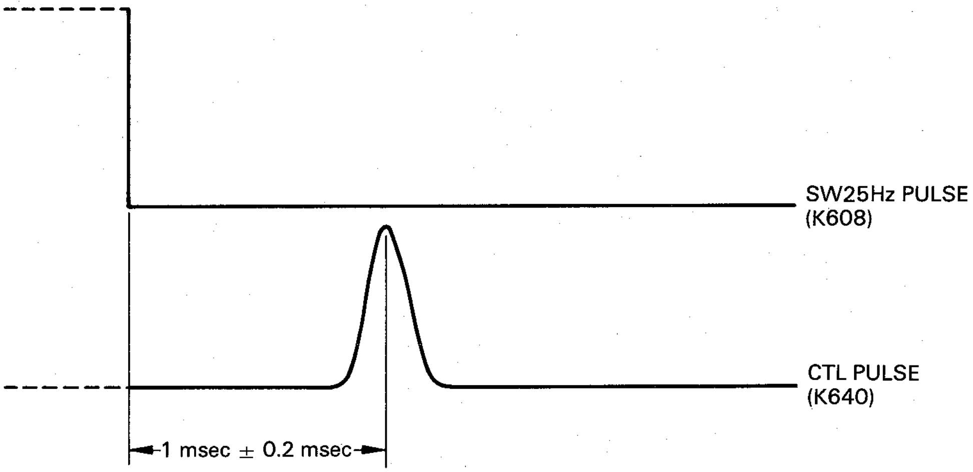
Connection Diagram


MAIN CIRCUIT BOARD
(Component Side)
PERI CONNECTOR (VIDEO INPUT JACK)
COLOURBAR GENERATOR
IC601
RT607 TRACKING PRESET
TUNER UNIT
K608 SW25Hz
K640 CTL PULSE
IC901
IF UNIT
RF CONVERTER UNIT
CH-1
CH-2
OSCILLOSCOPE

Adjustment Procedure

1) Tracking control: centred
2) It is 1 msec ± 0.2 msec from the fall of SW 25 Hz to the peak of CTL pulse.

Waveform


SW25Hz PULSE (K608)
CTL PULSE (K640)
1 msec ± 0.2 msec

4. V Jitter Adjustment

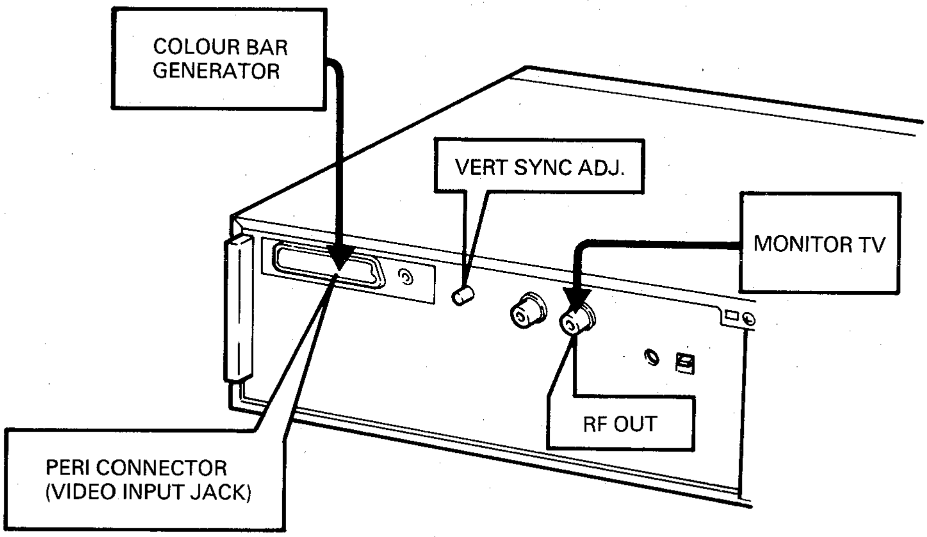
Purpose of adjustment and fault occurring if incomplete

Purpose: Change timing for adding vertical drive pulse and suppress vertical jitter in picture during trick play.

Fault: Vertical jitter during trick play.

Test Equipment/Jigs	Test Equipment Connection Points	VTR State	Adjustment Point
● Monitor TV ● Colour bar generator (or receive TV programme) ● Blank tape	● Check with monitor TV	● Record colour bar signal, play it back with this unit in F.ADV mode.	● RT501 (VERT SYNC ADJ.)

Connection Diagram (Can be adjusted without removing any covers)


COLOUR BAR GENERATOR
VERT SYNC ADJ.
MONITOR TV
RF OUT
PERI CONNECTOR (VIDEO INPUT JACK)

Adjustment Procedure

Suppress vertical jitter in picture.

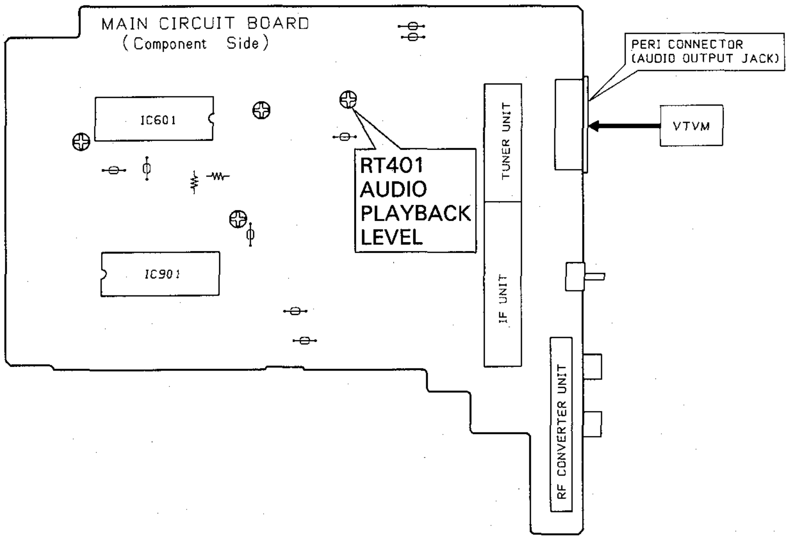
2. AUDIO CIRCUIT ADJUSTMENTS

1. Audio Playback Level Adjustment

Purpose of adjustment and fault occurring if incomplete
Purpose: Set the audio playback level to the specified value.
Fault:

Test Equipment/Jigs	Test Equipment Connection Points	VTR State	Adjustment Point
● VTVM ● Alignment tape	● Audio output jack	● Play back alignment tape	● RT401 (AUDIO PLAYBACK LEVEL)

Connection Diagram


MAIN CIRCUIT BOARD
(Component Side)
IC601
IC901
RT401
AUDIO
PLAYBACK
LEVEL
TUNER UNIT
IF UNIT
RF CONVERTER UNIT
PERI CONNECTOR
(AUDIO OUTPUT JACK)
VTVM

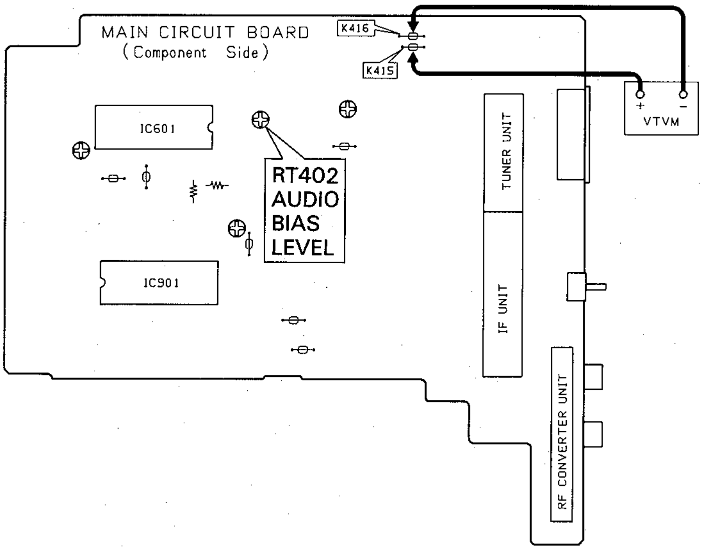
Adjustment Procedure
The VTVM reads –8 dBm +1 dBm

2. Audio Bias Level Adjustment

Purpose of adjustment and fault occurring if incomplete
Purpose: Set audio bias during recording to optimum level.
Fault: ○ Bias too deep: High-frequency response deteriorates.
○ Bias too shallow: Sound tends to be distorted.

Test Equipment/Jigs	Test Equipment Connection Points	VTR State	Adjustment Point
● VTVM ● Blank tape	● K415 ● K416	● Non-signal recording	● RT402 (AUDIO BIAS LEVEL)

Connection Diagram


MAIN CIRCUIT BOARD
(Component Side)
K416
K415
+
-
VTVM
IC601
RT402
AUDIO
BIAS
LEVEL
IC901
TUNER UNIT
IF UNIT
RF CONVERTER UNIT

Adjustment Procedure
The VTVM reads 2.3 mV ±0.1 mVrms.

1. SERVO CIRCUIT ADJUSTMENTS

1. Reference Oscillation Frequency Adjustment

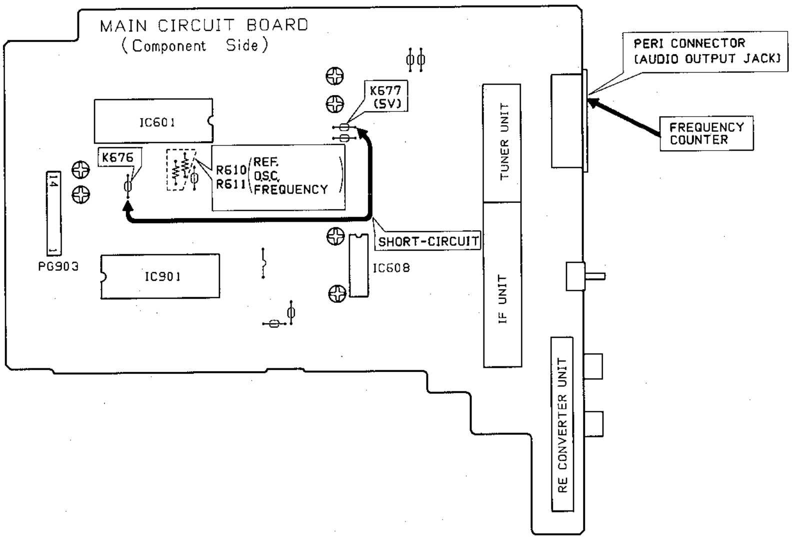
Purpose of adjustment and fault occurring if incomplete

Purpose: Fine tune the reference oscillation frequency (REF25 Hz) in the phase control loop to correct variations in diameters of flywheel, pulley, etc.

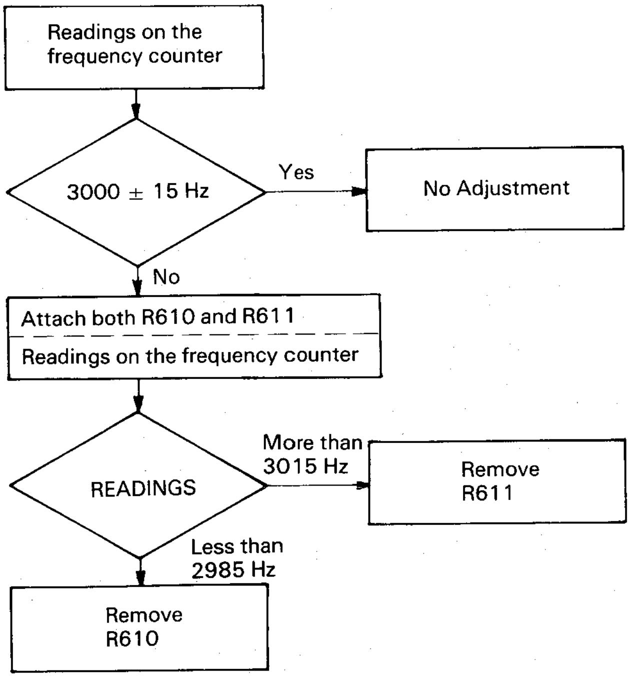
Fault: ○ Noise appears in picture.
○ Tracking cannot be optimized.

Test Equipment/Jigs	Test Equipment Connection Points	VTR State	Adjustment point
● Frequency counter ● Alignment tape	● Audio output jack	Alignment tape: Play back 3 kHz portion	● R610 (4.7K) ● R611 (3.9K) (REF. O.S.C FREQUENCY)

Connection Diagram


MAIN CIRCUIT BOARD
(Component Side)
PERI CONNECTOR
(AUDIO OUTPUT JACK)
FREQUENCY COUNTER
K677
(SV)
IC601
K676
R610
R611
REF.
OSC.
FREQUENCY
SHORT-CIRCUIT
14
1
PG903
IC901
IC608
TUNER UNIT
IF UNIT
RE CONVERTER UNIT

Adjustment Procedure


Readings on the frequency counter
3000 ± 15 Hz
Yes
No Adjustment
No
Attach both R610 and R611
Readings on the frequency counter
READINGS
More than 3015 Hz
Remove R611
Less than 2985 Hz
Remove R610

Note: There are some units in which R610 or R611 is removed when shipped from the factory.

2. Head Switching Point Adjustment

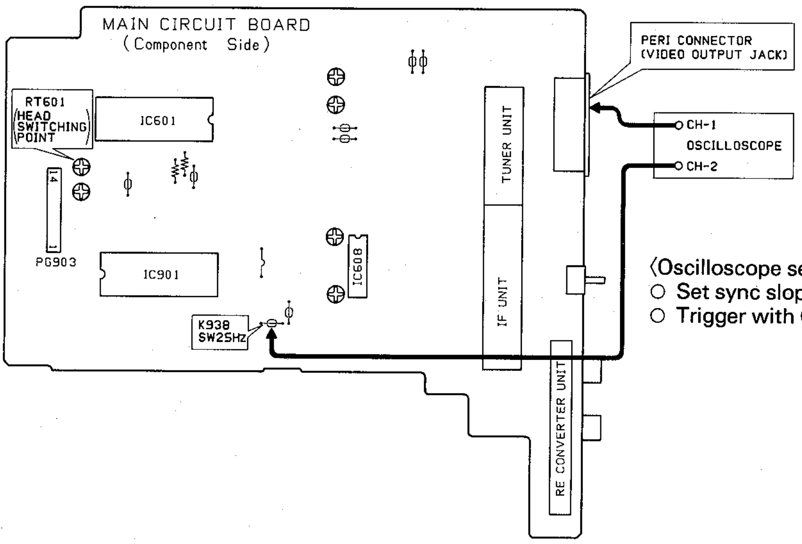
Purpose of adjustment and fault occurring if incomplete

Purpose: Set the video head switching point to almost centre where the CH-1 and CH-2 envelopes overlap each other during playback.

Fault: ○ The vertical sync signal is degraded and vertical jitter occurs.
○ Switching noise occurs in lower part of picture.

Test Equipment/Jigs	Test Equipment Connection Points	VTR State	Adjustment Point
● Oscilloscope ● Alignment tape	● CH-1: video output jack ● CH-2: K938 (SW25Hz)	● Play back alignment tape	● RT601 (HEAD SWITCHING POINT)

Connection Diagram

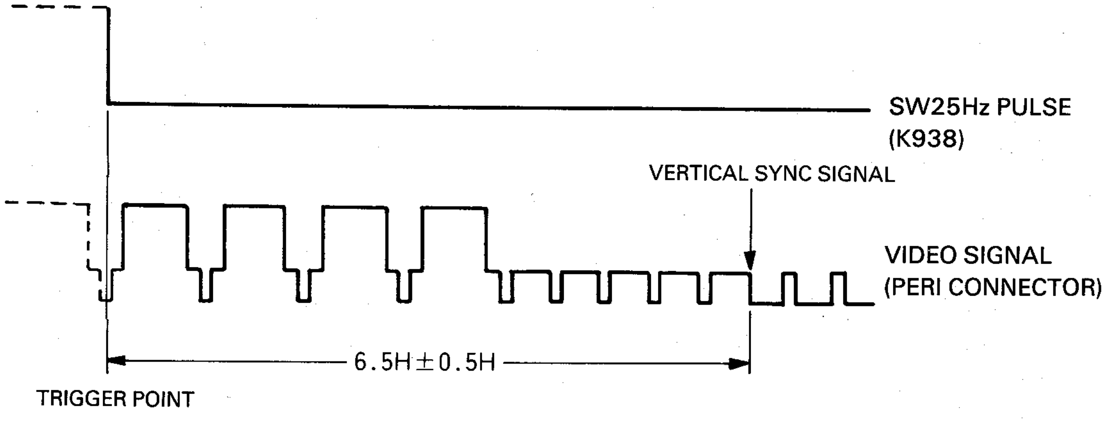

MAIN CIRCUIT BOARD
(Component Side)
RT601
(HEAD SWITCHING POINT)
IC601
PG903
IC901
K938
SW25Hz
IC608
TUNER UNIT
IF UNIT
RE CONVERTER UNIT
PERI CONNECTOR
(VIDEO OUTPUT JACK)
CH-1
OSCILLOSCOPE
CH-2

⟨Oscilloscope settings⟩
○ Set sync slope switch to "–".
○ Trigger with CH-2.

Adjustment Procedure

Vertical sync signal:
6.5H ±0.5H from trailing edge (trigger point) of SW25 Hz pulse.

Waveform


SW25Hz PULSE
(K938)
VERTICAL SYNC SIGNAL
VIDEO SIGNAL
(PERI CONNECTOR)
6.5H±0.5H
TRIGGER POINT

3. Tracking Preset Adjustment

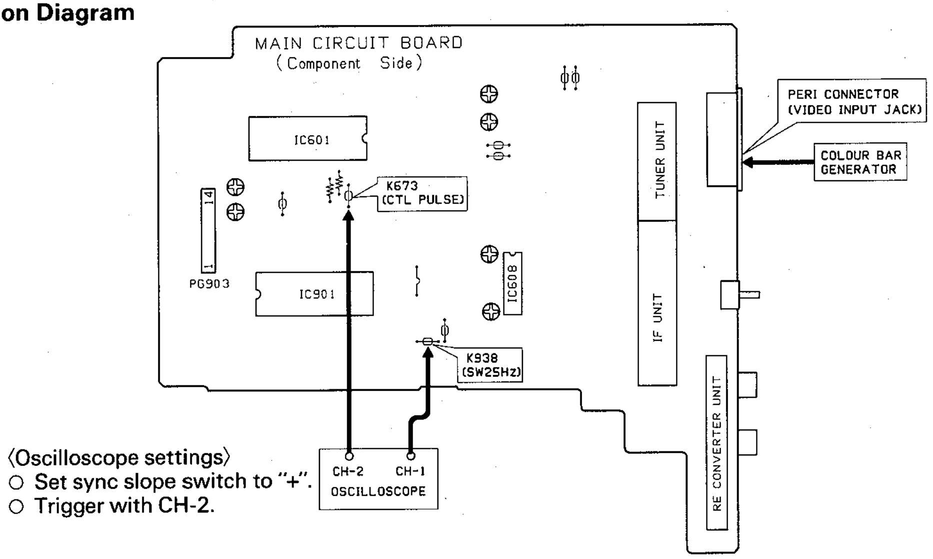
Purpose of adjustment and fault occurring if incomplete

Purpose: Optimize tracking when playing back a tape recorded by this unit.

Fault: ○ Noise occurs even with tracking control centred.
○ Noise cannot be removed by turning the tracking control.

Test Equipment/Jigs	Test Equipment Connection Points	VTR State	Adjustment Point
● Oscilloscope ● Colour bar generator (or receive TV programme) ● Blank tape	● CH-1: K938 (SW25Hz) ● CH-2: K673 (CTL PULSE)	● Record colour bar signal and play it back with this unit.	● RT607 [TRACKING PRESET]

Connection Diagram

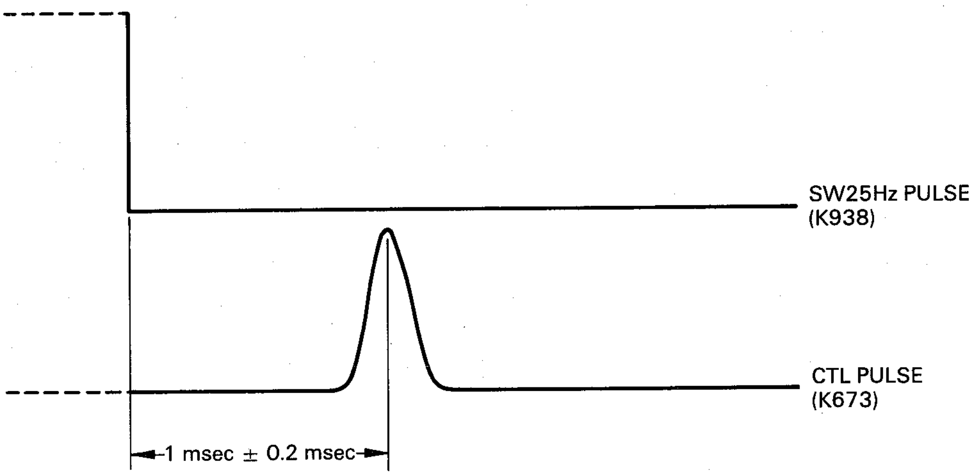

MAIN CIRCUIT BOARD
(Component Side)
IC601
K673
(CTL PULSE)
14
1
PG903
IC901
IC608
K938
(SW25Hz)
TUNER UNIT
IF UNIT
RE CONVERTER UNIT
PERI CONNECTOR
(VIDEO INPUT JACK)
COLOUR BAR
GENERATOR
CH-2
CH-1
OSCILLOSCOPE

⟨Oscilloscope settings⟩
○ Set sync slope switch to "+".
○ Trigger with CH-2.

Adjustment Procedure

1) Tracking control: centred
2) It is 1 msec ± 0.2 msec from the fall of SW 25 Hz to the peak of CTL pulse.

Waveform


SW25Hz PULSE
(K938)
CTL PULSE
(K673)
1 msec ± 0.2 msec

4. Slow Tracking Preset Adjustment

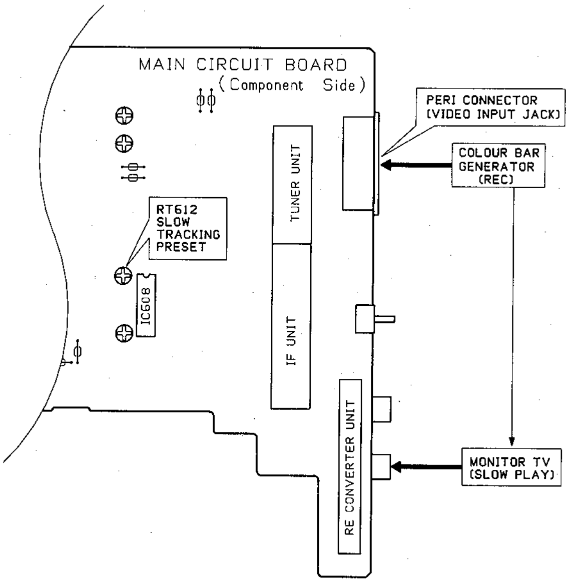
Purpose of adjustment and fault occurring if incomplete

Purpose: Optimize tracking during slow play.

Fault: A noise bar appears in the picture during slow play.

Test Equipment/Jigs	Test Equipment Connection Points	VTR State	Adjustment Point
● Monitor TV ● Colour bar generator (or receive TV programme) ● Blank tape	● Check with monitor TV	● Record colour bar signal, play it back with this unit in slow mode.	● RT612 [SLOW TRACKING PRESET]

Connection Diagram


MAIN CIRCUIT BOARD
(Component Side)
PERI CONNECTOR (VIDEO INPUT JACK)
COLOUR BAR GENERATOR (REC)
RT612 SLOW TRACKING PRESET
TUNER UNIT
IF UNIT
IC608
RE CONVERTER UNIT
MONITOR TV (SLOW PLAY)

Adjustment Procedure

1) Slow tracking control: centered
2) More than 12 frames are advanced intermittently until the noise bar flows from the bottom to top and disappears.

5. Slow Stability Adjustment

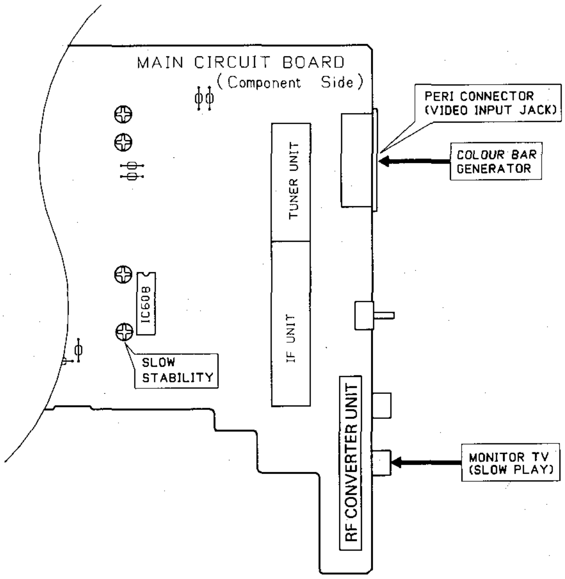
Purpose of adjustment and fault occurring if incomplete

Purpose: Suppress the horizontal jitter in the picture during slow play.

Fault: Horizontal jitter occurs in the picture during slow play.

Test Equipment/Jigs	Test Equipment Connection Points	VTR State	Adjustment Point
● Monitor TV ● Colour bar generator (or receive TV programme) ● Blank tape	● Check with monitor TV	● Record colour bar signal, play it back with this unit in slow mode.	● RT607 (SLOW STABILITY)

Connection Diagram


MAIN CIRCUIT BOARD
(Component Side)
PERI CONNECTOR (VIDEO INPUT JACK)
COLOUR BAR GENERATOR
TUNER UNIT
IF UNIT
IC608
SLOW STABILITY
RF CONVERTER UNIT
MONITOR TV (SLOW PLAY)

Adjustment Procedure

1) Slow tracking control: centered
2) Minimize horizontal jitter in the picture.

6. V Jitter Adjustment

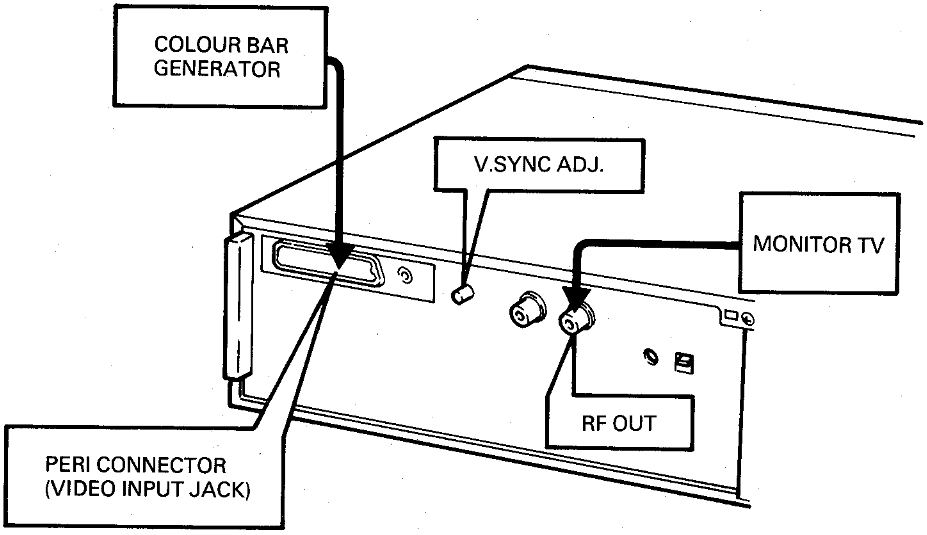
Purpose of adjustment and fault occurring if incomplete

Purpose: Change timing for adding vertical drive pulse and suppress vertical jitter in picture during trick play.

Fault: Vertical jitter during trick play.

Test Equipment/Jigs	Test Equipment Connection Points	VTR State	Adjustment Point
● Monitor TV ● Colour bar generator (or receive TV programme) ● Blank tape	● Check with monitor TV	● Record colour bar signal, play it back with this unit in F.ADV mode.	● RT501 (V JITTER)

Connection Diagram (Can be adjusted without removing any covers)


COLOUR BAR GENERATOR
V.SYNC ADJ.
MONITOR TV
RF OUT
PERI CONNECTOR (VIDEO INPUT JACK)

Adjustment Procedure

Suppress vertical jitter in picture.

2. AUDIO CIRCUIT ADJUSTMENTS

1. Audio Playback Level Adjustment

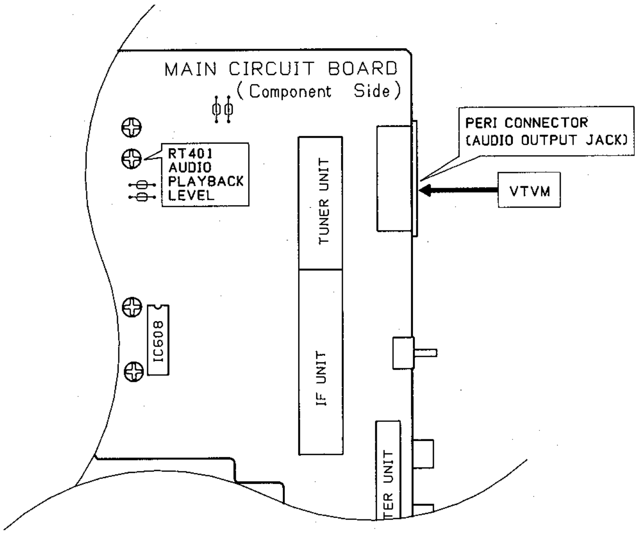
Purpose of adjustment and fault occurring if incomplete

Purpose: Set the audio playback level to the specified value.

Fault:

Test Equipment/Jigs	Test Equipment Connection Points	VTR State	Adjustment Point
● VTVM ● Alignment tape	● Audio output jack	● Play back alignment tape	● RT401 (AUDIO PLAYBACK LEVEL)

Connection Diagram


MAIN CIRCUIT BOARD
(Component Side)
RT401
AUDIO
PLAYBACK
LEVEL
TUNER UNIT
IC608
IF UNIT
TER UNIT
PERI CONNECTOR
(AUDIO OUTPUT JACK)
VTVM

Adjustment Procedure

The VTVM reads –8 dBm ± 1 dBm

2. Audio Bias Level Adjustment

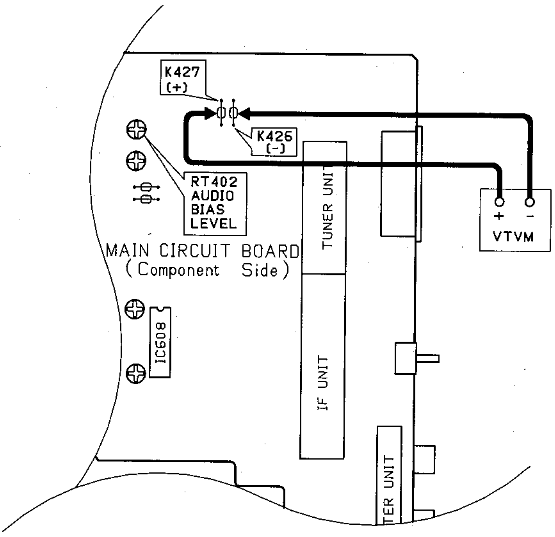
Purpose of adjustment and fault occurring if incomplete

Purpose: Set audio bias during recording to optimum level.

Fault: ○ Bias too deep: High-frequency response deteriorates.
○ Bias too shallow: Sound tends to be distorted.

Test Equipment/Jigs	Test Equipment Connection Points	VTR State	Adjustment Point
● VTVM ● Blank tape	● K426 (–) ● K427 (+)	● Non-signal recording	● RT402 (AUDIO BIAS LEVEL)

Connection Diagram


K427 (+)
K426 (-)
RT402 AUDIO BIAS LEVEL
MAIN CIRCUIT BOARD (Component Side)
TUNER UNIT
IF UNIT
IC608
TER UNIT
+
-
VTVM

Adjustment Procedure

The VTVM reads 2.1 mV ±0.1 mVrms.

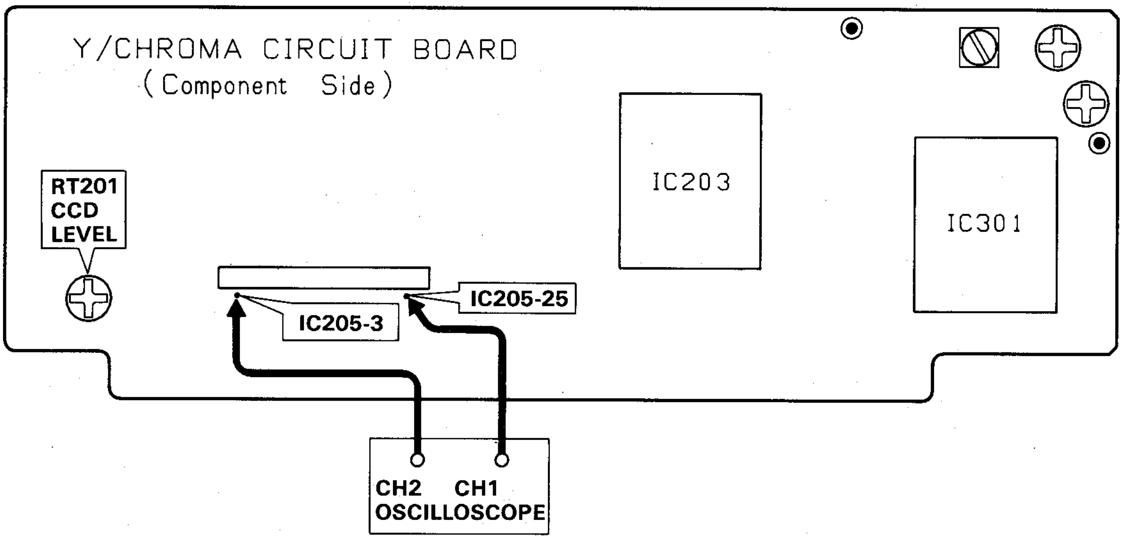
3. Y/CHROMA CIRCUIT ADJUSTMENT

1. CCD Level Adjustment

Purpose of adjustment and fault occurring if incomplete
Purpose: Makes the input and output levels of the CCD 1H delay line the same.
Fault: Switching noise is conspicuous when dropout is compensated.

Test Equipment/Jigs	Test Equipment Connection Points	VTR State	Adjustment Point
● Oscilloscope ● Alignment tape	● CH-1: IC205-25 ● CH-2: IC205-3	● Play back alignment tape	● RT201 (CCD LEVEL)

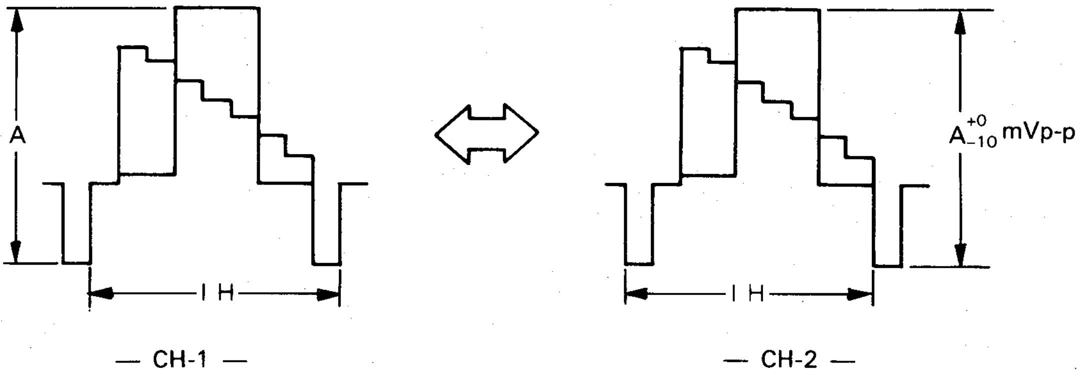
Connection Diagram



Y/CHROMA CIRCUIT BOARD
(Component Side)
RT201
CCD
LEVEL
IC203
IC301
IC205-25
IC205-3
CH2 CH1
OSCILLOSCOPE

Adjustment Procedure
Align the CH-1 and CH-2 levels.
CH-2 = CH-1$^{+0}_{-10}$mVp-p.

Note: CH-2 level is less than CH-1 level.



A
1 H
— CH-1 —
A^{+0}_{-10}mVp-p
1 H
— CH-2 —

2. Rec Chroma Level Adjustment

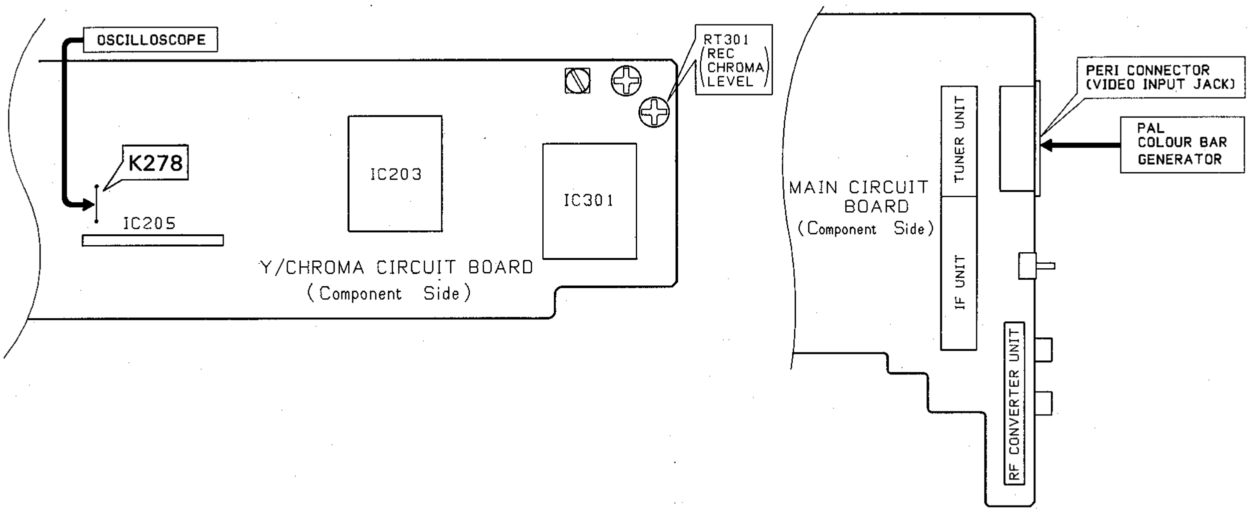
Purpose of adjustment and fault occurring if incomplete

Purpose: Set the chroma record level to an optimum value.

Fault: The diamond beats occur in the played back picture or coloring becomes poor.

Test Equipment/Jigs	Test Equipment Connection Points	VTR State	Adjustment Point
● Colour bar generator ● Oscilloscope	● K278	● E-E mode	● RT301 (REC CHROMA LEVEL)

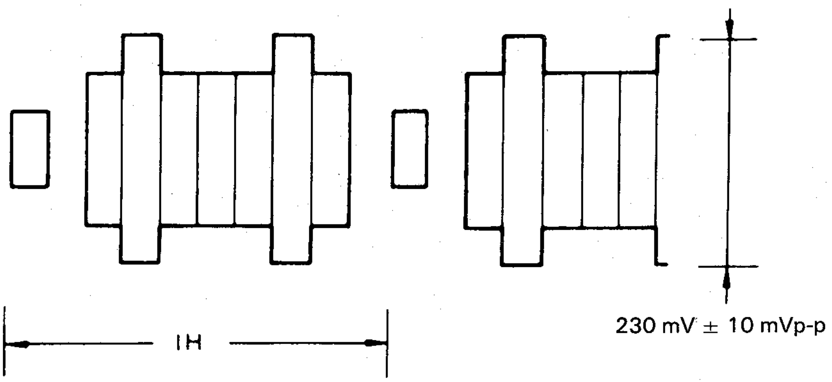
Connection Diagram


OSCILLOSCOPE
K278
IC205
IC203
IC301
Y/CHROMA CIRCUIT BOARD
(Component Side)
RT301
(REC CHROMA LEVEL)
MAIN CIRCUIT BOARD
(Component Side)
TUNER UNIT
IF UNIT
RF CONVERTER UNIT
PERI CONNECTOR
(VIDEO INPUT JACK)
PAL
COLOUR BAR
GENERATOR

Adjustment Procedure

The oscilloscope reads 230 mV ± 10 mVp-p

Waveform


IH
230 mV ± 10 mVp-p

3. Secam Detect Level Adjustment

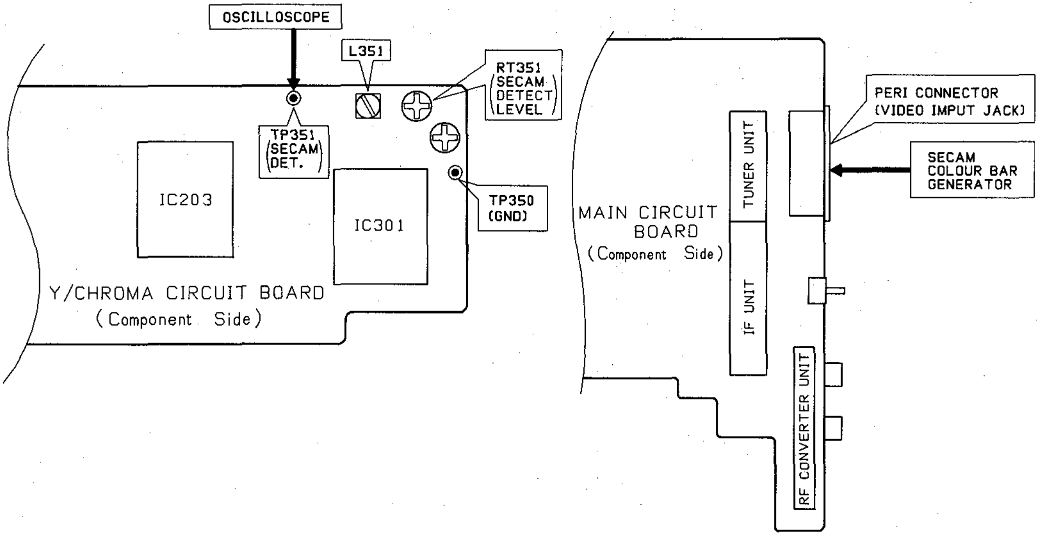
Purpose of adjustment and fault occurring if incomplete

Purpose: Set the secam detect level to the specified value

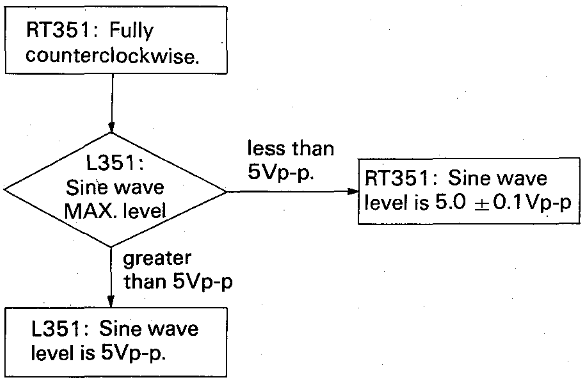
Fault:

Test Equipment/Jigs	Test Equipment Connection Points	VTR State	Adjustment Point
● SECAM colour bar generator ● Oscilloscope	● TP351 ● TP350 (GND)	● EE mode	● RT351 (SECAM DETECT LEVEL)

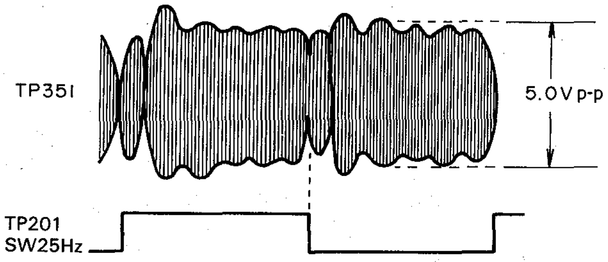
Connection Diagram


OSCILLOSCOPE
L351
RT351 (SECAM DETECT LEVEL)
TP351 (SECAM DET.)
IC203
IC301
TP350 (GND)
Y/CHROMA CIRCUIT BOARD (Component Side)
MAIN CIRCUIT BOARD (Component Side)
TUNER UNIT
IF UNIT
RF CONVERTER UNIT
PERI CONNECTOR (VIDEO IMPUT JACK)
SECAM COLOUR BAR GENERATOR

Adjustment Procedure


RT351: Fully counterclockwise.
L351: Sine wave MAX. level
less than 5Vp-p.
RT351: Sine wave level is 5.0 ±0.1Vp-p
greater than 5Vp-p
L351: Sine wave level is 5Vp-p.

Wave form



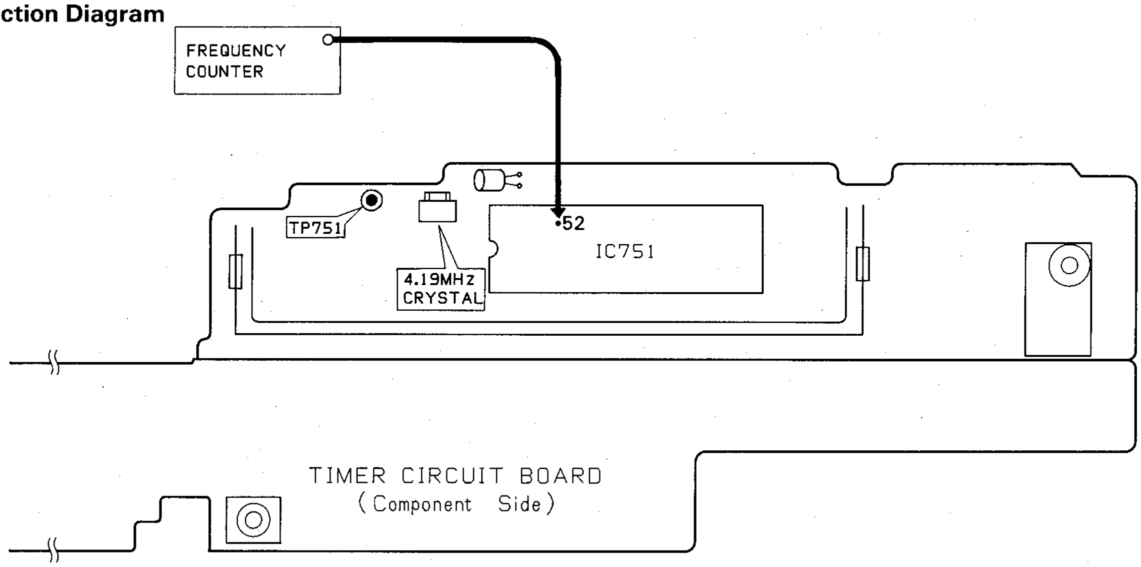
4. TIMER CIRCUIT ADJUSTMENTS

1. 4.19 MHz Crystal Adjustment

Purpose of adjustment and fault occurring if incomplete
Purpose: Suppress the time gain or lag of the timer less than 0.2 seconds per day.
Fault:

Test Equipment/Jig	Test Equipment Connection Points	VTR State	Adjustment Point
● Frequency counter	● TP751 (–) ● IC751 PIN 52	● Stop mode	● C770 (4.19 MHz CRYSTAL)

Connection Diagram



Adjustment Procedure

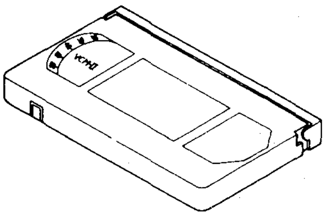
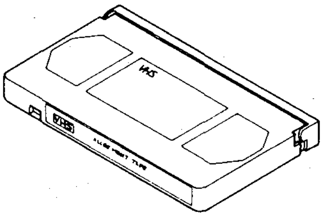
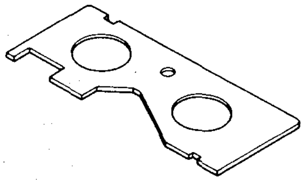
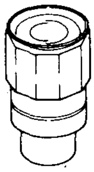
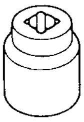
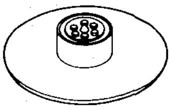
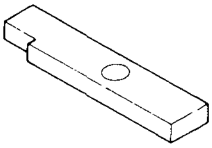
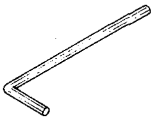
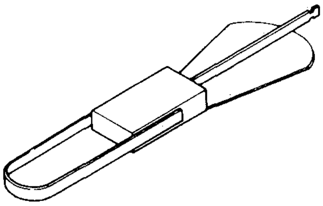
1) Set the counter gate time to 10 seconds.
2) When performing measurement with the probe attached to the oscillation circuit, a delay of 2.35 seconds per day occurs. (It is not possible to adjust directly.)
3) Perform measurement using a frequency counter with 6 or more effective digits, taking the drift of probe into account.
4) Set the adjustment frequency to f = 4.194190.
   ① Frequency counter with 7 effective digits
   f = 4.194190
   Error range: f = 4.1914189 – 4.194191
   Difference per day: ± 0.021 second
   ② Frequency counter with 6 effective digits
   f = 4.19419
   Error range: f = 4.19418 – 4.19420
   Difference per day: +0.207 seconds
   –0.206

Note: Set the probe to 10:1 (18 pF ~ 22 pF) for use.

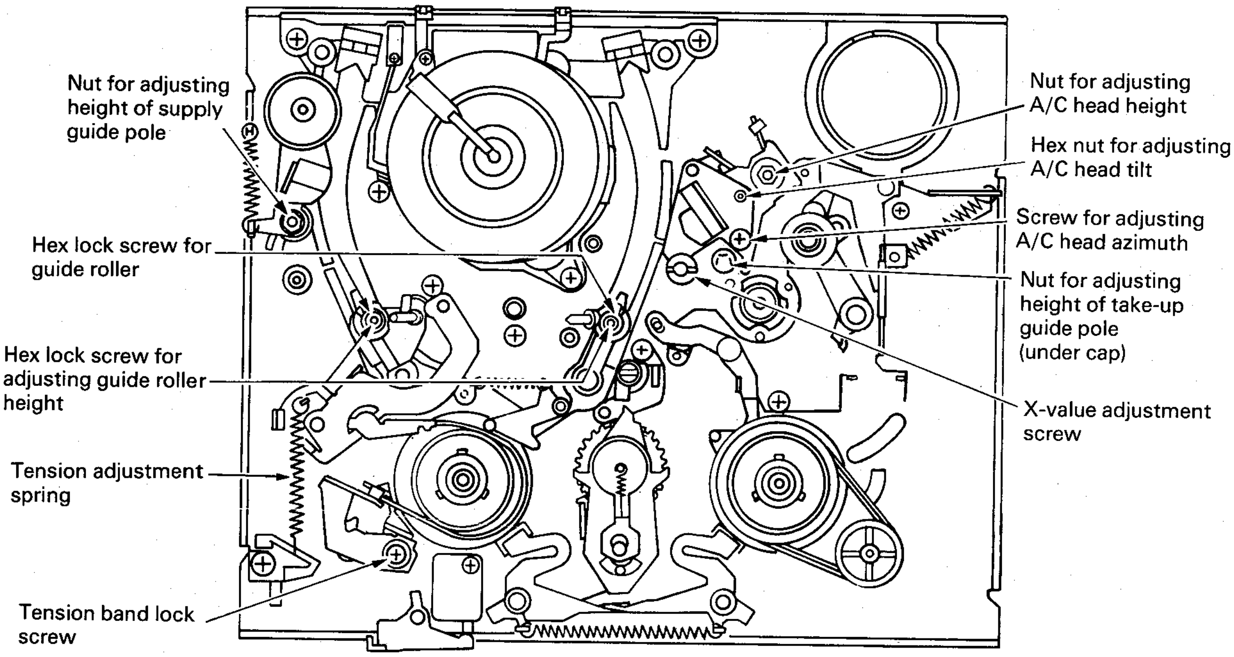
CHAPTER 4

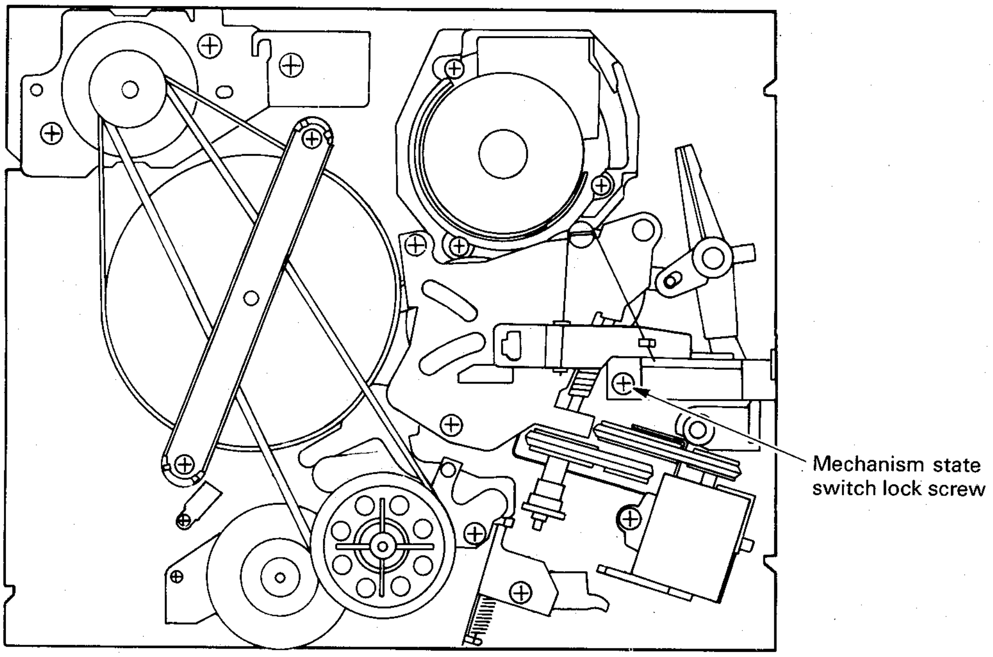
MECHANISM ADJUSTMENT

SERVICING JIGS AND TOOLS

1. Back tension meter Parts No. 7099004 	2. Alignment tape Parts No. 7099052 	3. Height reference plate (master plane) Parts No. 7099041 
4. Torque gauge Parts No. 7099039 	5. Torque gauge adaptor Parts No. 7099035 	6. Dummy reel Parts No. 7099043 
7. Reel disk height jig Parts No. 7099038 	8. 1.5 mm hexagonal wrench 	9. Fan-shaped tension gauge 

LIST OF ADJUSTMENT LOCATIONS


Nut for adjusting height of supply guide pole
Hex lock screw for guide roller
Hex lock screw for adjusting guide roller height
Tension adjustment spring
Tension band lock screw
Nut for adjusting A/C head height
Hex nut for adjusting A/C head tilt
Screw for adjusting A/C head azimuth
Nut for adjusting height of take-up guide pole (under cap)
X-value adjustment screw


Mechanism state switch lock screw

MECHANICAL COMPONENT ADJUSTMENT

1. Mechanism State Switch Adjustment

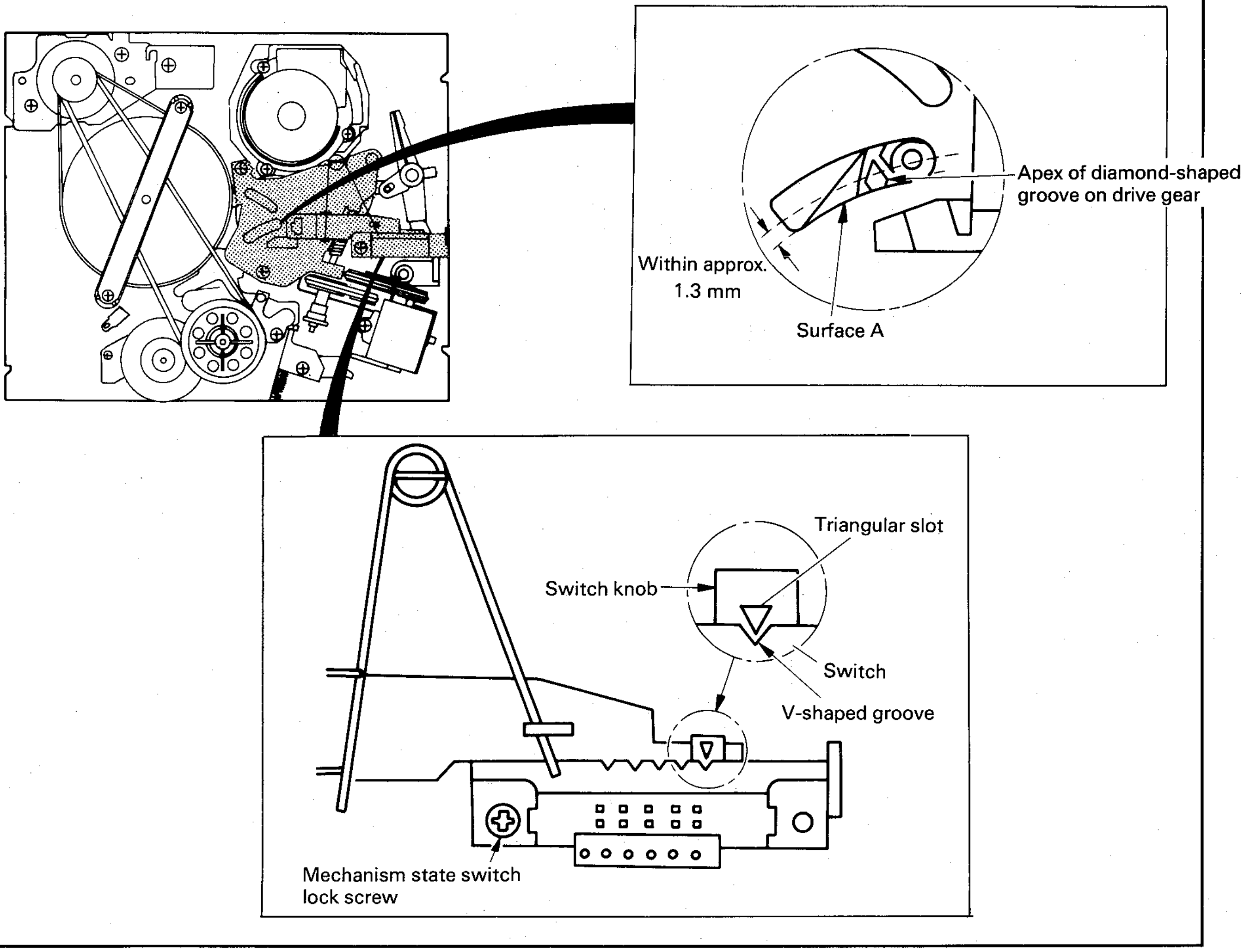
Purpose: Accurately detect mechanism states and prevent malfunction.

Test Equipment/Jigs	VTR State	Adjustment Point
● Blank tape	● Stop mode	● Mechanism state switch lock screw

Adjustment Procedure

1) Turn the worm pulley by hand. Position the apex of the diamond-shaped groove on the drive gear so that it is within 1.3 mm from the A surface of the gear plate.
2) Loosen the lock screw on the mechanism state switch. Slide the switch so that the apex of the triangular slot on the switch knob is aligned with the V-shaped groove on the extreme outside of the switch.
3) Loosen the lock screw. Insert the blank tape in the cassette holder. Check to make sure that all unloading and loading operations are correct.

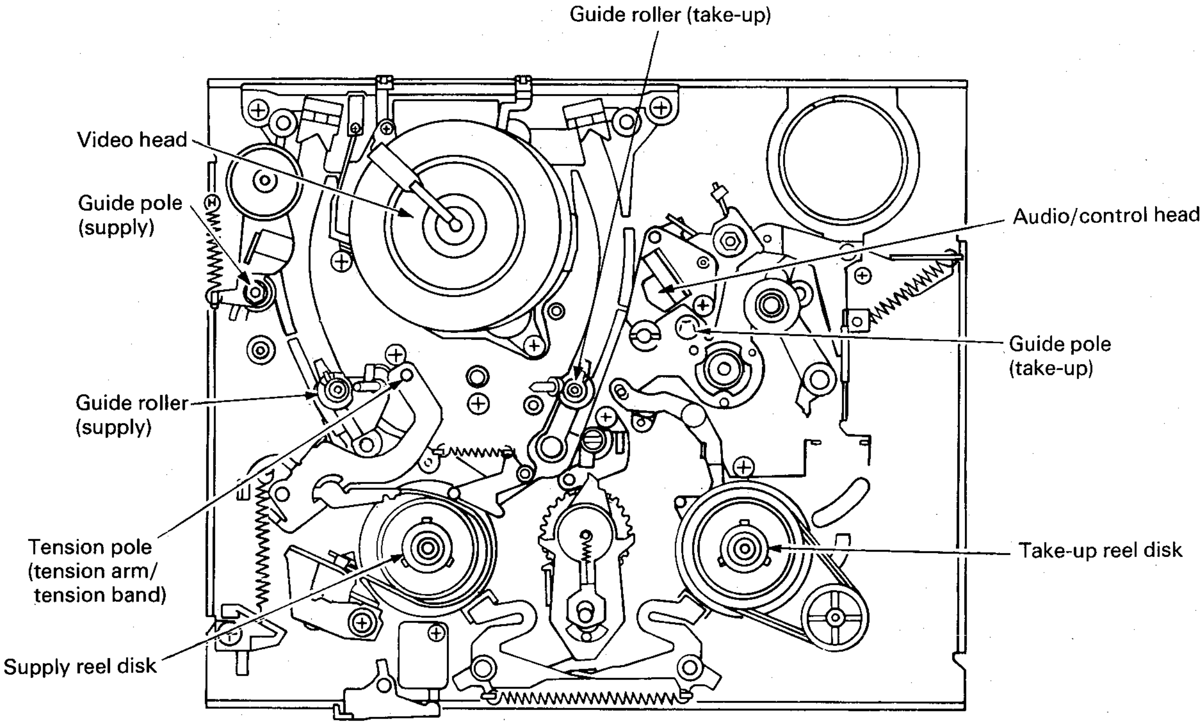
Adjustment Diagram


Apex of diamond-shaped groove on drive gear
Within approx. 1.3 mm
Surface A
Triangular slot
Switch knob
Switch
V-shaped groove
Mechanism state switch lock screw

TAPE TRANSPORT SYSTEM ADJUSTMENT

The transport system is the system in which tape moves from the supply reel disk, over the video head and then to the take-up reel disk. The components in the tape transport system must be perfectly clean, particularly those that come in contact with the tape.

These components must have no scratches, no dust, no oil on them. The tape transport system is adjusted at the factory prior to shipping. When components need to be replaced, accurately adjusting the new components ensures that the tape transport system will operate stably.


Guide roller (take-up)
Video head
Guide pole (supply)
Audio/control head
Guide pole (take-up)
Guide roller (supply)
Tension pole (tension arm/ tension band)
Take-up reel disk
Supply reel disk

Components Adjusted in Tape Transport System

1. Reel Disk Height Adjustment

Purpose: Determine correct tape height by setting cassette tape reel to the specified height.

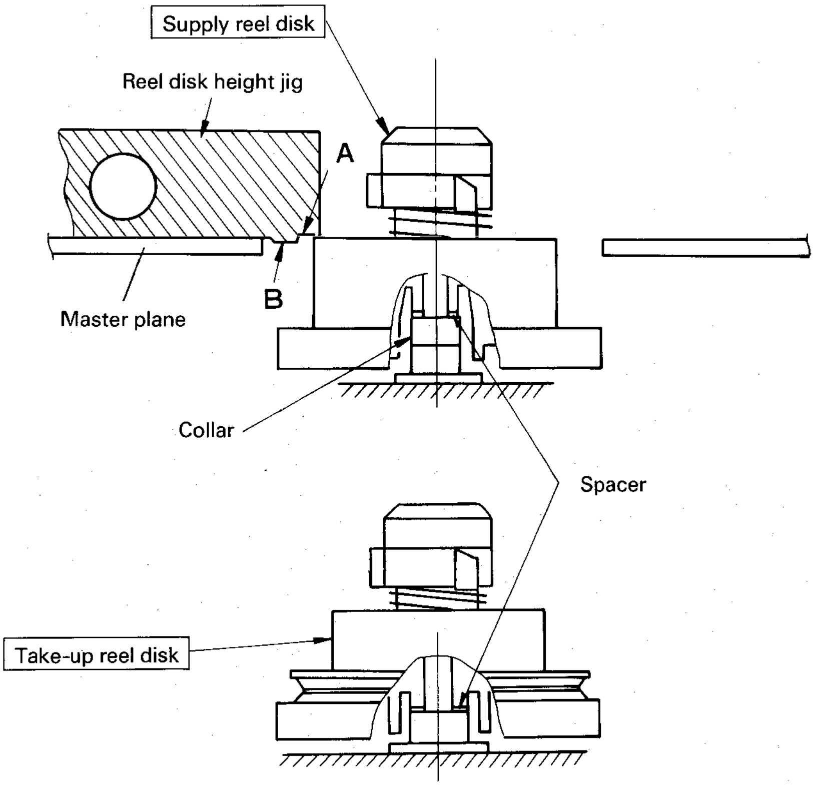
Test Equipment/Jigs	VTR State	Adjustment Point
● Master plane ● Reel disk height jig	1) Remove chassis holder 2) Mount master plane and place reel disk height jig on it.	● Spacers in supply and take-up reel disks.

Adjustment Procedure

1) Make sure the reel disk is correctly positioned between points A and B on the reel disk height jig.
2) If the reel disk will not fit between points A and B, replace the spacer in the reel disk or adjust the number of spacers (0.25 mm and 0.5 mm thicknesses).

Caution:
If the tension arm/tension band have been removed, adjust the tension pole's position and tension after reassembling.

Adjustment Diagram


Supply reel disk
Reel disk height jig
A
B
Master plane
Collar
Spacer
Take-up reel disk

2. Tension/Tension Pole Position Adjustments

Purpose: Stabilize contact between video head and tape being supplied so that the tape tension is uniform throughout.

Test Equipment/Jigs	VTR State	Adjustment Point
● Flat-bladed screwdriver ● Tension cassette	1) Remove top cover 2) Place VTR in loading state without cassette insertion (see 4-17). **Tension adjustment** 3) Play tension cassette	**Position adjustment:** Tension band lock screw **Tension:** Tension spring hook position

Adjustment Procedure

Position Adjustment

1) Loosen lock screw on tension band. Insert flat bladed screwdriver in slot in bracket and chassis.
2) Use the screwdriver to slide the bracket for a 1 ~ 2 mm interval between the tension pole and chassis.
3) Tighten the lock screw on the tension band.
4) After adjusting, reload without inserting the tape and recheck the position of the tension pole.

Tension Adjustment

Reading of tension cassette:

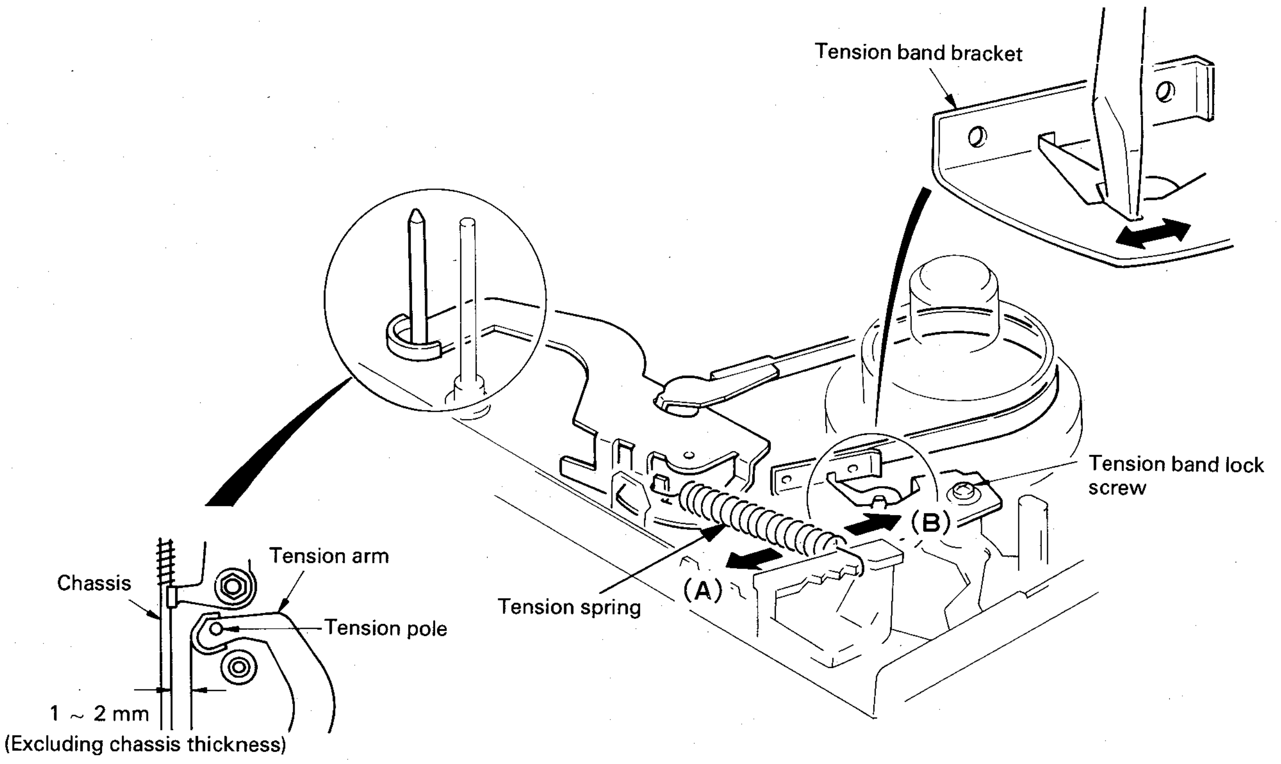
30 ~ 40 g-cm. (reference value)

If tension is higher than the reference value, move the spring in direction A.

If tension is lower than the reference value, move the spring in direction B.

Caution: If a 6 g-cm or larger change is made in tension position, recheck tension pole position. If the position is off, readjust the tension pole's position and tension.

Adjustment Diagram



3. Guide Pole Height Adjustment

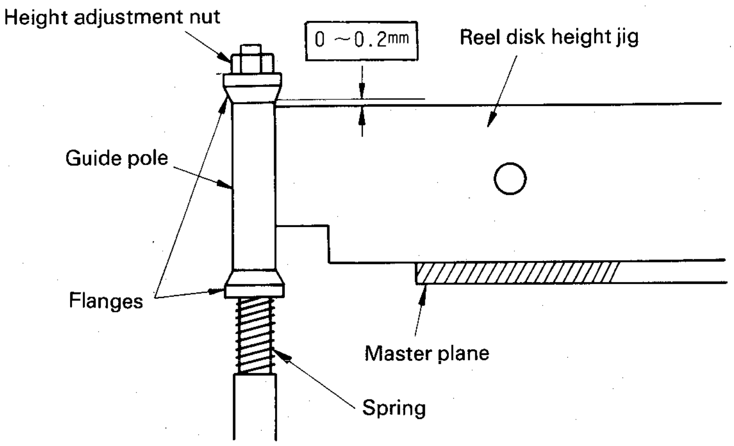
Purpose: Control tape height.

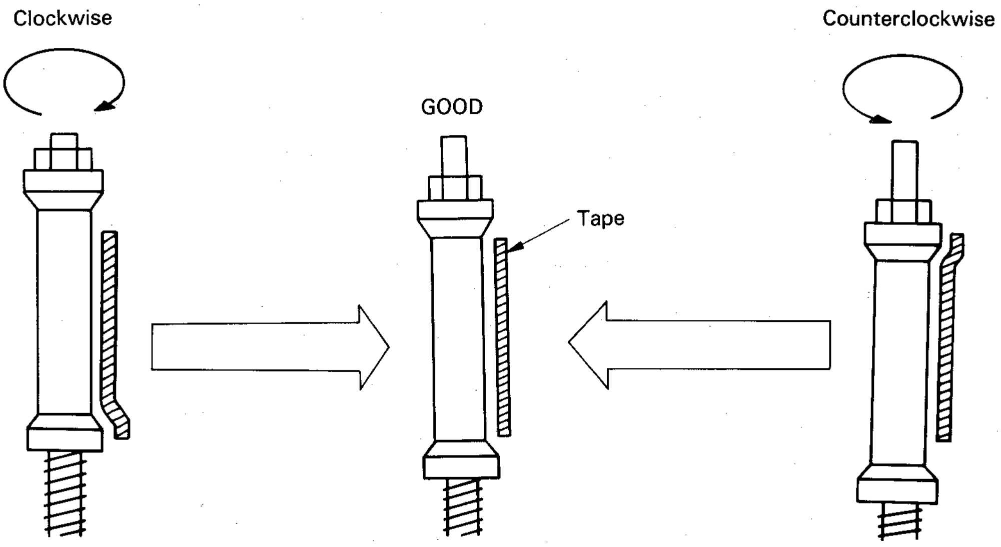
Test Equipment/Jigs	VTR State	Adjustment Point
● Master plane ● Reel disk height jig ● Blank tape	1) Remove chassis holder 2) Mount master plane and place the reel disk height jig on it.	● Nut for adjusting height of supply and take-up guide poles (take-up pole is under cap).

Adjustment Procedure

1) Adjust gap between guide pole's upper flange and reel disk height jig to 0 ~ 0.2 mm.
2) Load and run the blank tape. Check to make sure the tape does not ride over the pole's upper or lower flange.
3) If the tape does ride over, adjust guide pole height.
   If tape rides over upper flange, turn adjustment nut counterclockwise.
   If tape rides over lower flange, turn adjustment nut clockwise.

Adjustment Diagram


Height adjustment nut
0 ~0.2mm
Reel disk height jig
Guide pole
Flanges
Master plane
Spring


Clockwise
GOOD
Counterclockwise
Tape

4. Guide Roller Height Adjustments

Purpose: Control tape height so the tape's bottom edge runs along the cylinder's tape guideline.

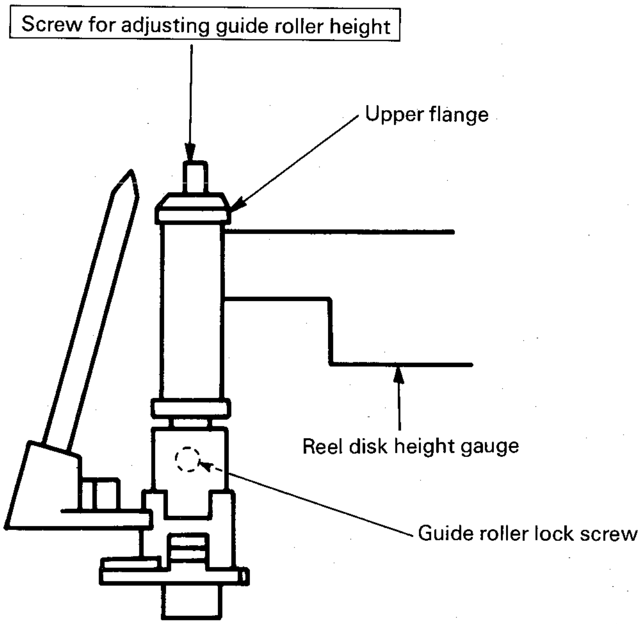
Coarse Adjustment

Test Equipment/Jigs	VTR State	Adjustment Point
● Master plane ● Reel disk height jig ● 1.5 mm hexagonal wrench	1) Remove chassis holder 2) Mount master plane and place reel disk height jig on it.	● Screws for adjusting height of supply and take-up guide roller

Adjustment Procedure

1) Loosen guide roller lock screw so that the guide roller does not turn during loading, unloading and playback.
2) Set the upper edge of the reel disk height jig to the same level as the guide roller's upper flange.
3) Now make precision adjustments.

Adjustment Diagram

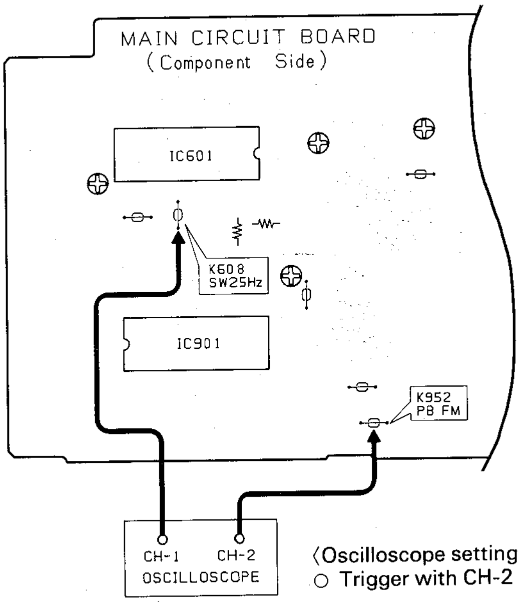

Screw for adjusting guide roller height
Upper flange
Reel disk height gauge
Guide roller lock screw

Precision Adjustment

Test Equipment/Jigs	Test Equipment Connection Point	VTR State	Adjustment Point
● Oscilloscope ● Alignment tape ● Hexagonal wrench	**VT-125E (VPS)** ● CH-1: K952 ● CH-2: K608 **VP-135E (VPS)** ● CH-1: K941 ● CH-2: K938	● Playback alignment tape	● Screw for adjusting guide roller height

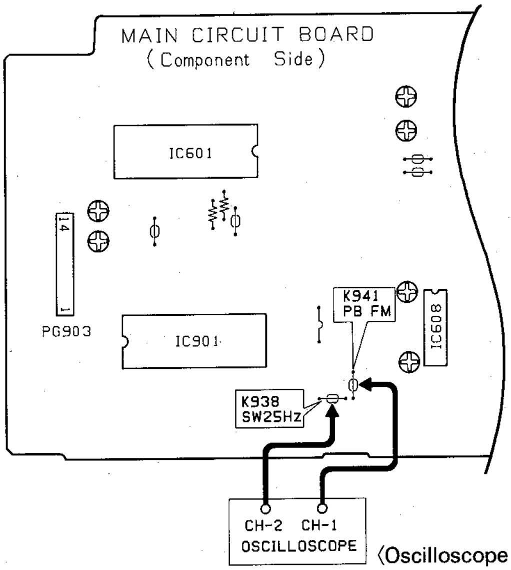
Connection Diagram

VT-125E (VPS)


MAIN CIRCUIT BOARD
(Component Side)
IC601
K608
SW25Hz
IC901
K952
PB FM
CH-1
CH-2
OSCILLOSCOPE

⟨Oscilloscope settings⟩
○ Trigger with CH-2

VT-135E (VPS)

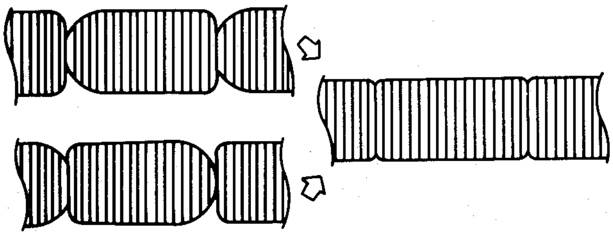

MAIN CIRCUIT BOARD
(Component Side)
IC601
14
1
PG903
IC901
K941
PB FM
IC608
K938
SW25Hz
CH-2
CH-1
OSCILLOSCOPE

⟨Oscilloscope settings⟩
○ Trigger with CH-2.

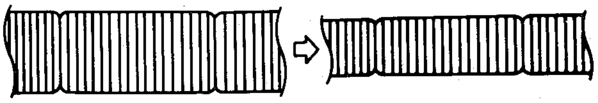
Adjustment Procedure

1) Tracking control: centered (when making this adjustment after replacing the cylinder, set the tracking control so the FM output is maximum.
2) Turn height adjustment screw to flatten the FM waveform.
3) Turn the tracking control clockwise.
4) Make sure that FM drops at the head and tail.
5) Tighten lock screw.

Waveform



Turn guide roller height adjustment screw a little at a time to flatten waveform.

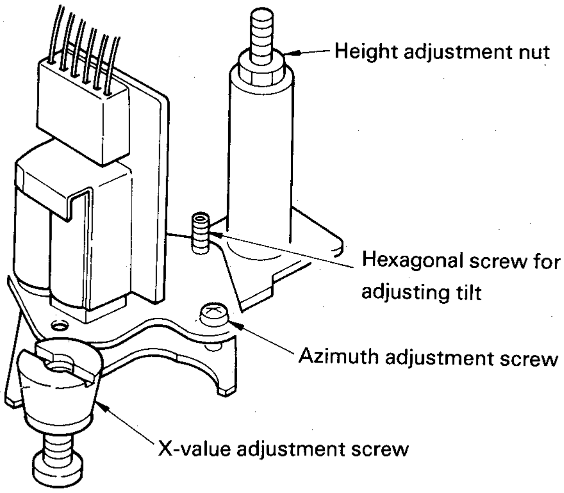


Tracking control centred

Turn tracking control clockwise

5. Audio and Control Head

Purpose: Ensure uniform contact between tape and head to record and play a prescribed track.


Height adjustment nut
Hexagonal screw for adjusting tilt
Azimuth adjustment screw
X-value adjustment screw

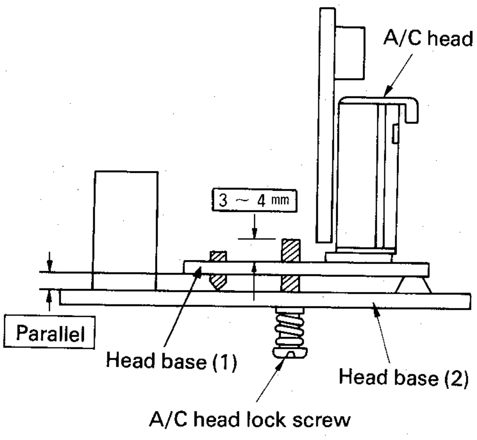
Coarse Adjustment

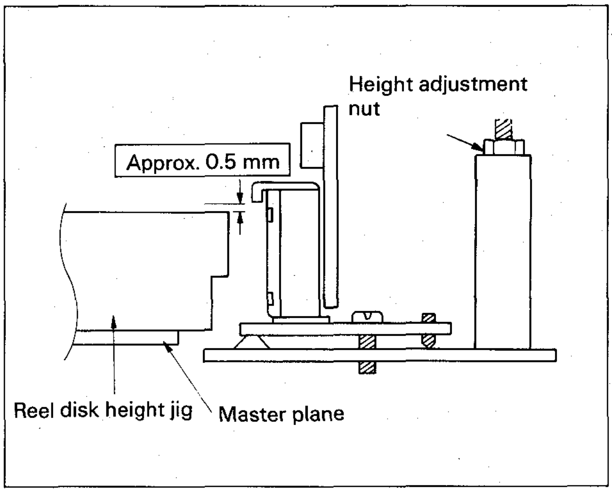
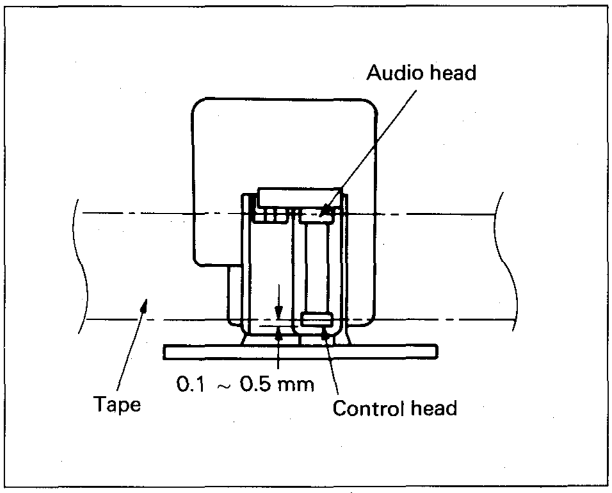
Test Equipment/Jigs	VTR State	Adjustment Point
● Master plane ● Reel disk height jig ● Blank tape ● Hexagonal wrench	1) Remove chassis holder 2) Mount master plane and place reel disk height jig on it.	● Azimuith adjustment screw ● Height adjustment nut ● Tilt adjustment screw

Adjustment Procedure

1) Tighten the A/C head lock screw through the spring from the bottom of head base (2) until the screw tip protrudes 3 ~ 4 mm from the top surface of head base (1).
2) Turn the tilt adjustment hexagonal screw and the azimuth adjustment screw so that head base (1) and head base (2) are parallel.

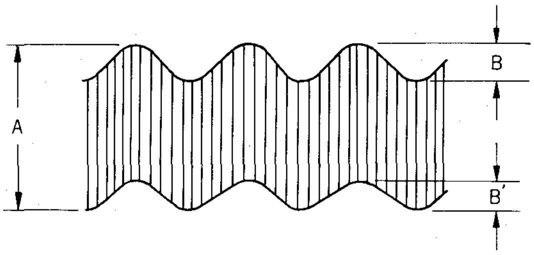
Adjustment Diagram


A/C head
3 ~ 4 mm
Parallel
Head base (1)
Head base (2)
A/C head lock screw

Adjustment Procedure	Adjustment Diagram
3) Turn the height adjustment nut until the gap between reel disk height jig and A/C head is approx. 0.5 mm.	 Height adjustment nut Approx. 0.5 mm Reel disk height jig Master plane
4) Remove the adjustment jigs and insert a blank tape. Place in playback mode. Make sure the tape does not curl or ride over around the A/C head. If the tape curls or rides over, readjust the tilt adjustment hex screw, the azimuth adjustment screw and the height adjustment nut. The ideal A/C head height is with the tap's bottom edge 0.1 ~ 0.15 mm from the bottom edge of the control head's core. 5) Now move on to precision adjustments.	

Precision Adjustment

Test Equipment/Jigs	Test Equipment Connection Point	VTR State	Adjustment Point
● Hexagonal wrench ● Oscilloscope ● Alignment tape	● Audio output jack	● Playback alignment tape (7 kHz portion)	● Azimuth adjustment screw ● Height adjustment nut ● Tilt adjustment screw

Adjustment Procedure	Waveform Diagram
1) Alternate turning, a little at a time, of the azimuth adjustment screw, the height adjustment nut and the tilt adjustment hex screw to both maximize and flatten audio output (minimize fluctuation).	 A: maximum BB': minimum

6. X Value Adjustment

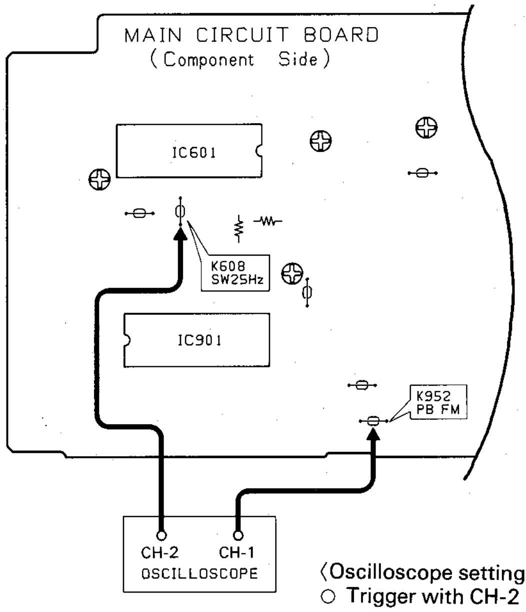
Purpose: Ensure compatibility with other VTRs.

Caution: Be sure to adjust the tracking preset before making this adjustment.

Test Equipment/Jigs	Test Equipment Connection Point	VTR State	Adjustment Point
● Oscilloscope ● Alignment tape ● X-value adjustment screwdriver	● CH-1 : K938 ● CH-2 : K941	● Play back alignment tape	● X-value adjustment screw

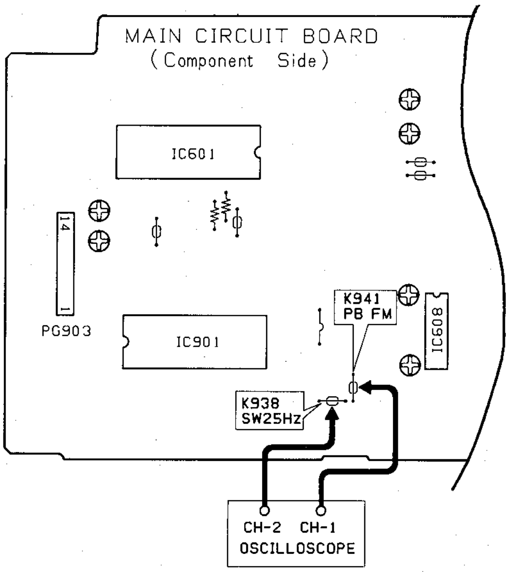
Connections Diagram

VT-125E (VPS)

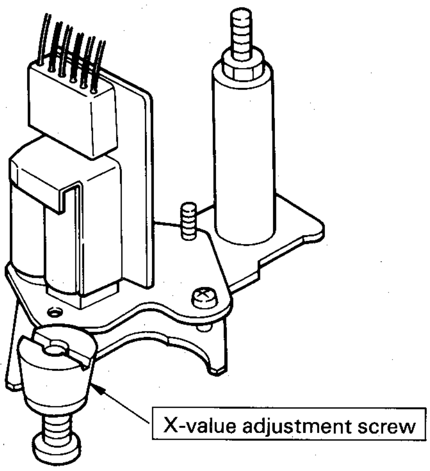

MAIN CIRCUIT BOARD
(Component Side)
IC601
K608
SW25Hz
IC901
K952
PB FM
CH-2
CH-1
OSCILLOSCOPE

〈Oscilloscope settings〉
○ Trigger with CH-2

VT-135E (VPS)

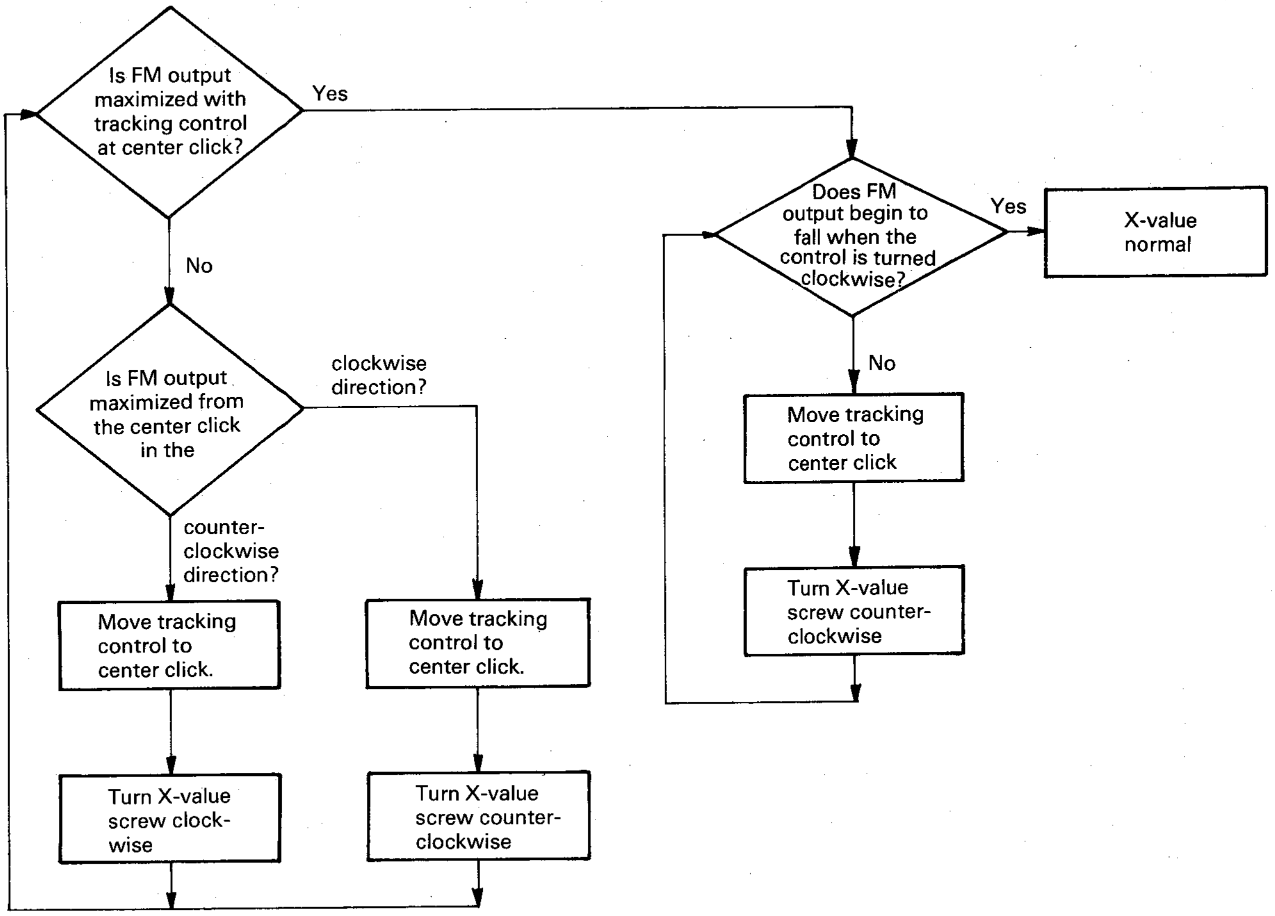

MAIN CIRCUIT BOARD
(Component Side)
IC601
14
1
PG903
IC901
K941
PB FM
IC608
K938
SW25Hz
CH-2
CH-1
OSCILLOSCOPE

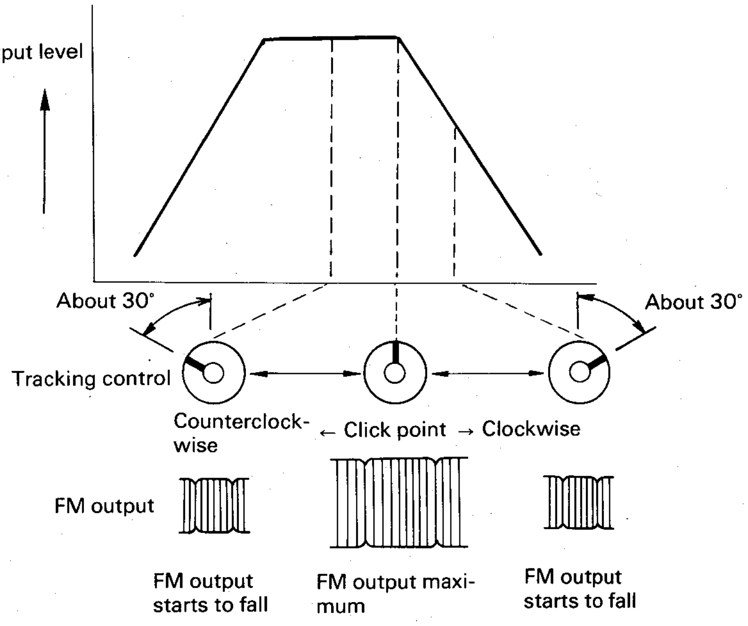
〈Oscilloscope settings〉
○ Trigger with CH-2


X-value adjustment screw

Adjustment Procedure

Since the 65 μm head will trace over 49 μm width track, center tracking control and make adjustments to maximize FM output, or turn the control clockwise about 30° and adjust so that FM output begins to fall. (Is FM output maximized with tracking control at center click?)


Is FM output maximized with tracking control at center click?
Yes
No
Is FM output maximized from the center click in the
clockwise direction?
counter-clockwise direction?
Move tracking control to center click.
Turn X-value screw clockwise
Move tracking control to center click.
Turn X-value screw counter-clockwise
Does FM output begin to fall when the control is turned clockwise?
Yes
X-value normal
No
Move tracking control to center click
Turn X-value screw counter-clockwise

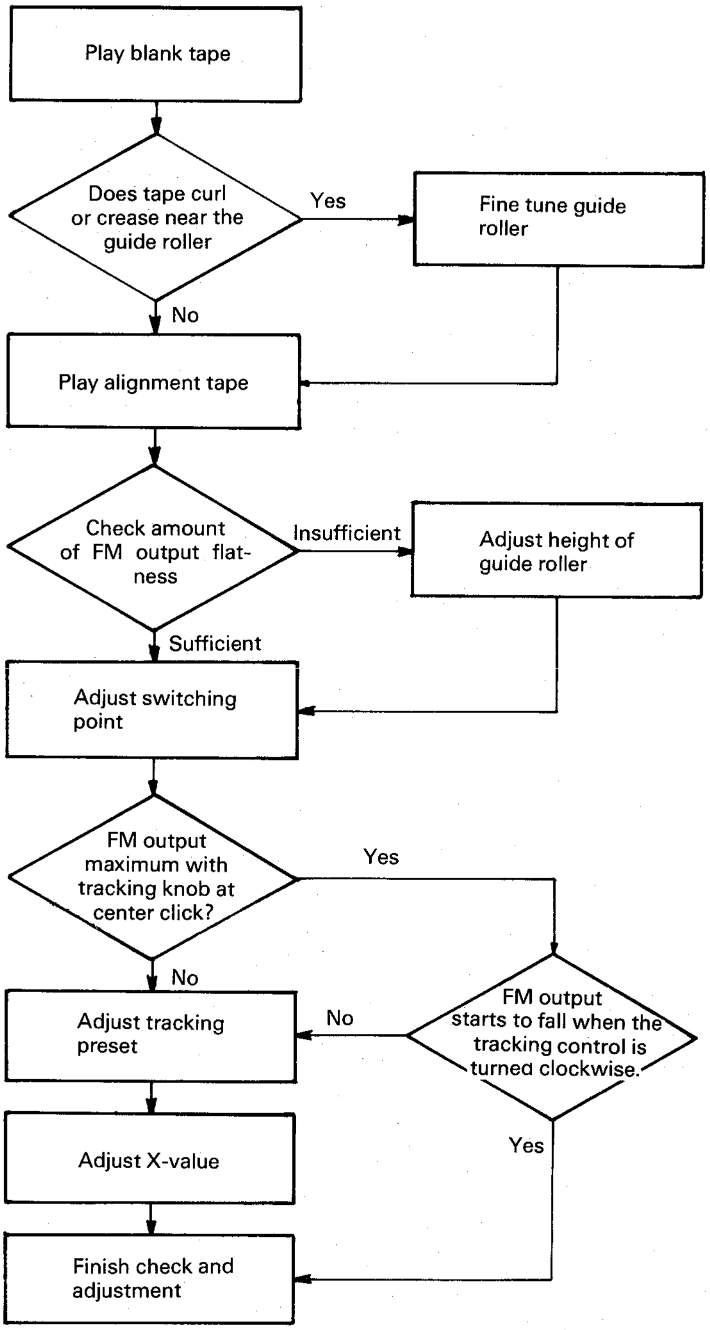

FM output level
About 30°
About 30°
Tracking control
Counterclockwise
← Click point →
Clockwise
FM output
FM output starts to fall
FM output maximum
FM output starts to fall

7. Adjustments after replacing Cylinder (Video Head)

Purpose: A new replacement cylinder will differ with the guide roller in X-value and relative height. But, correct replacement procedures will reduce this disparity to a minimum.

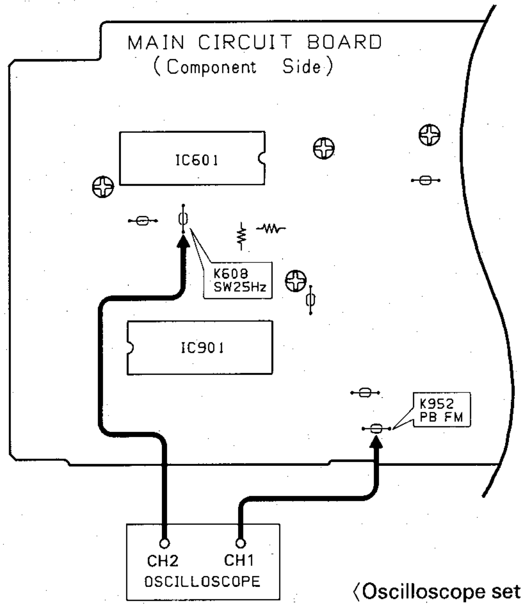
Test Equipment/Jigs	Test Equipment Connection Points	Adjustment Points
● Oscilloscope ● Alignment tape ● Blank tape ● Hexagonal wrench ● X-value adjustment screwdriver	● Check amount of flattening ● CH-1 : K938 ● CH-2 : K941	● Guide roller (see precision adjustment on page 4-9) ● Switching point (see section 3) ● Tracking preset (see section 3) ● X-value (see page 4-12)

Check and Adjustment Procedures


Play blank tape
Does tape curl or crease near the guide roller
Yes
Fine tune guide roller
No
Play alignment tape
Check amount of FM output flatness
Insufficient
Adjust height of guide roller
Sufficient
Adjust switching point
FM output maximum with tracking knob at center click?
Yes
No
FM output starts to fall when the tracking control is turned clockwise.
No
Adjust tracking preset
Yes
Adjust X-value
Finish check and adjustment

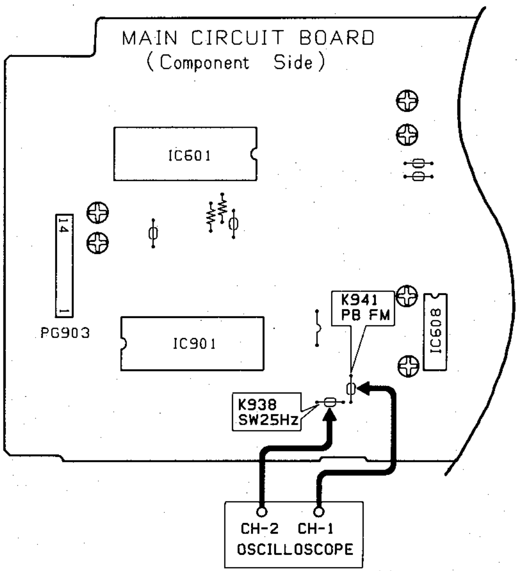
Connection Diagram

VT-125E (VPS)


MAIN CIRCUIT BOARD
(Component Side)
IC601
K608
SW25Hz
IC901
K952
PB FM
CH2
CH1
OSCILLOSCOPE

〈Oscilloscope settings〉
○ Trigger with CH-2

VT-135E (VPS)

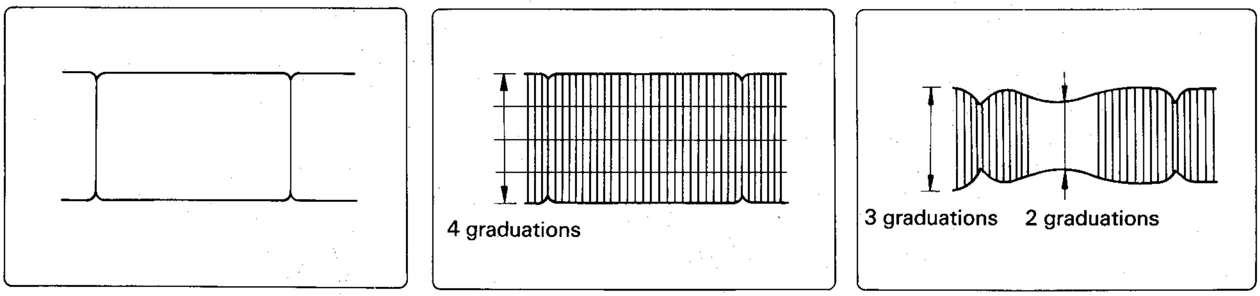

MAIN CIRCUIT BOARD
(Component Side)
IC601
14
1
PG903
IC901
K941
PB FM
IC608
K938
SW25Hz
CH-2
CH-1
OSCILLOSCOPE

〈Oscilloscope settings〉
○ Trigger with CH-2

Procedures for checking amount of fluctuations and flatness in FM output

1) Use tracking control to maximize FM output.
2) Fine tune the oscilloscope's voltage level range to adjust FM output to 4 graduations.
3) Turn the tracking control to set the FM output's maximum amplitude at 3 graduations.
4) Make sure the minimum amplitude at this time is at 2 graduations or higher.
5) Make sure the difference between maximum and minimum level fluctuation is 13% or less.

Waveform Diagram


4 graduations
3 graduations
2 graduations

8. Checking Tension and Torque

Purpose: Checking tension torque and pressure on the components that wind and move the tape is necessary to ensure smooth tape run and fulfill the VTR's basic functions. Make this check when tape run is rough or tape speed is incorrect.

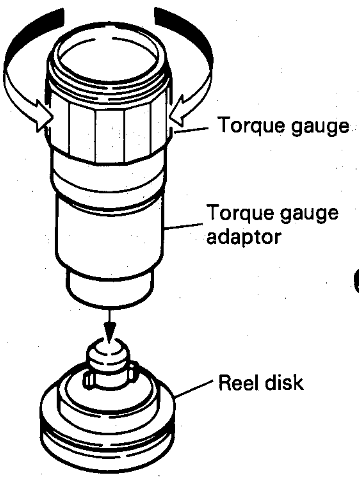
Test equipment/jigs	VTR state
● Torque gauge ● Torque gauge adaptor ● Fan-shaped tension gauge ● Dummy reel	● Operate VTR without loading tape cassette (see page 4-17)

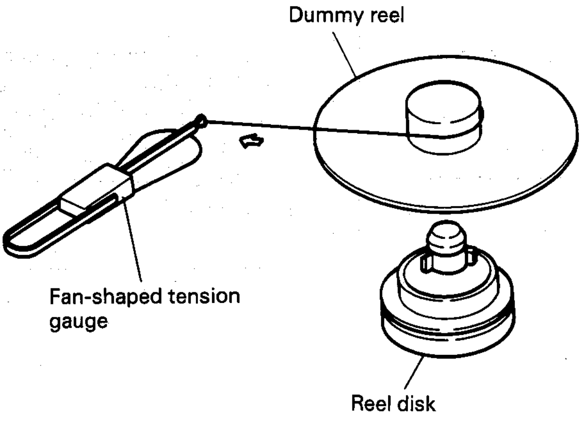
Item	VTR Operation mode	Measurement reel	Measurement values	Remarks
Main brake torque	Stop	Supply and take-up reels	170 g·cm or more	Note 1
Slack removal torque	Unloading	Supply reel	90 ~ 190 g·cm	Note 1
Fast forward torque	Fast forward	Take-up reel	400 g·cm or more	Note 1
Rewind torque	Rewind	Supply reel	400 g·cm or more	Note 1
Reel winding torque	Play	Take-up reel	90 ~ 180 g·cm	Note 1
Back-tension torque	Fast forward	Supply reel	4 ~ 15 g·cm	Note 2
	Rewind	Take-up reel		

Note: 1. Value when using torque gauge and torque gauge adaptor for measurement with torque gauge sliding at 0.8 rps. However, main brake torque indicates measurement values during manual rotation of take-up reel, counterclockwise, and supply reel, clockwise, at 0.8 rps.

Note: 2. Indicates the value when the dummy reel and fan-shaped tension gauge are used to measure the take-up reel disk pulling counterclockwise and the supply reel disk pulling clockwise at 50 mm/s.

Adjustment Diagram



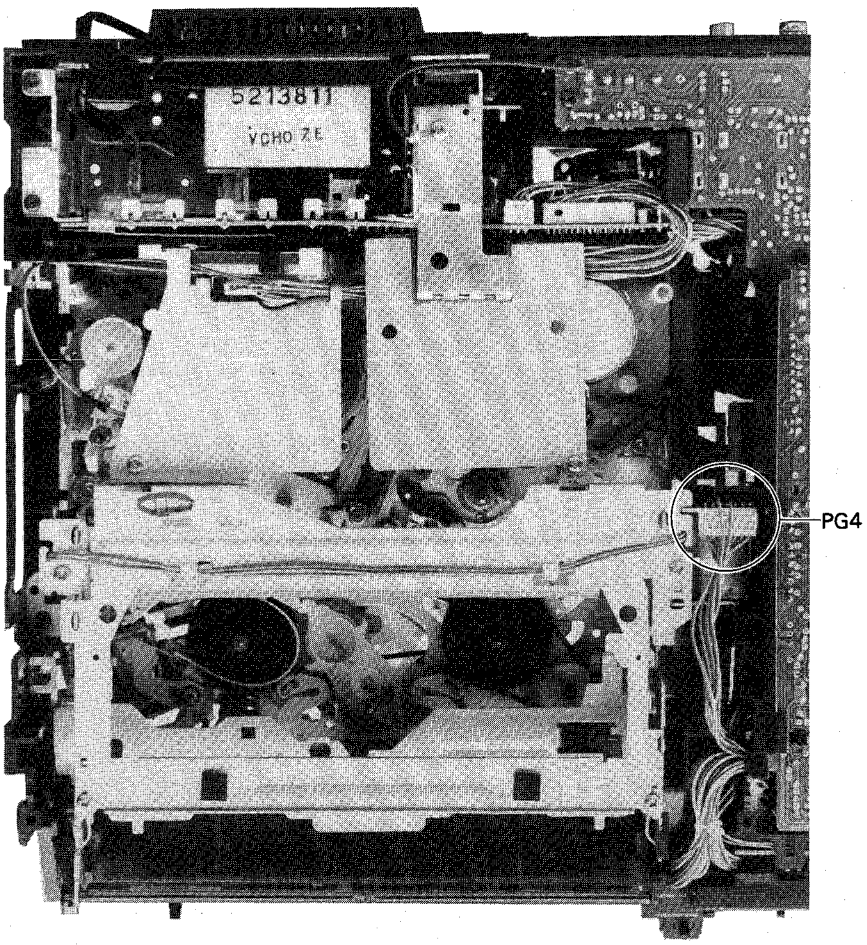


Note: Method with VTR in loading state and no tape cassette inserted.

1) Remove top cover.
2) Remove AC plug from wall socket.
3) Disconnect the connector from the plug (PG-4) on the cassette loading motor circuit board.
4) Short-circuit pins 2 and 5 of the connector.
5) Insert AC plug into wall socket.
6) Turn VTR power on.
   In this state, the VTR will accept all modes. However, rewind can be performed for only a few seconds because the take-up disk is in stop state and reel pulses cannot be detected.

[Caution]
After the above operations, always use the following steps to return to the original modes.

1) Remove short-circuit from connector and insert in plug.
2) Remove the AC plug from the wall socket once to reset the system control microprocessor.

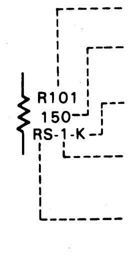


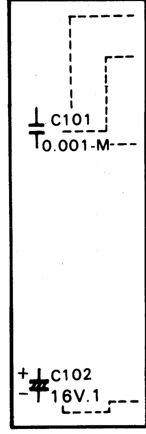
CHAPTER 5

SCHEMATIC/CIRCUIT BOARD DIAGRAMS

Note

1. Voltage measured at base of chassis with minimum volume control and no signal.
   (   ) are shown in recording condition.
2. Nomenclature of Resistors and Capacitors.

	Circuit No.	
	Value	No indicated Ω (Ohm) M : 1000kΩ
	Tolerance	No indicated ± 5% K: ± 10% M: ± 20%
	Wattage	No indicated ¼ W
	Sort	No indicated Carbon film RC : Composition RW : Wire wound RS : Oxide metal film RN : Fixed metal film

	Circuit No.		
	Value	No indicated μF P : PF	
	Tolerance	No indicated ± 10% J : ± 5% M : ± 20% Z : + 80%, − 20% D : ± 0.5pF C : ± 0.25pF	
	Sort	⊥⊤	Ceramic
		+ ⊥⊤ −	Electrolitic
		M ⊥⊤	Mylar
		P ⊥⊤	Polyester
		S ⊥⊤	Styrol
	Voltage	No indicated 50WV	

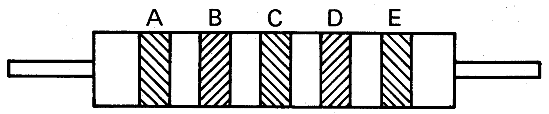
3. Be sure to make your orders of resistors and capacitors with value, voltage, tolerance and sort.
4. When replacing capacitors marked with * use specified ones stated on parts list since required temperature characteristics.

Cautions on use of MOS IC

1. The MOS IC is inserted in black foam for shipment. This foam is a conductor which short-circuits between the leads to prevent damage. Do not remove ICs from this foam during their storage. Avoid removing ICs from this foam, placing them on plastic which is likely to be charged with static electricity or inserting them into styrol foam.
2. High voltages may be applied during soldering caused by leakages from the soldering iron, so be sure to ground the tip of the soldering iron or use a low voltage soldering iron.
3. The human body, clothes made of synthetic fibres or nylon gloves may be charged with several thousands volts of static electricity because of friction, so a worker should be grounded.
4. Be sure to ground measuring instruments such as oscilloscopes, VTVMs, etc. used for repairs.

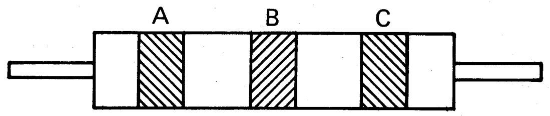
HOW TO READ CAPACITY AND INDUCTANCE OF RESISTOR SHAPE CAPACITORS AND COILS

CAPACITOR



CAPACITY: (10A+B)xC [PF]
TOLERANCE: D
RATED VOLTAGE: BODY COLOR
Pink: 25V
Green: 50V
CHARACTERISTICS: E

COIL



INDUCTANCE: (10A+B)xC [μH]

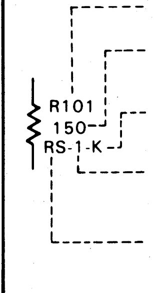
COLOR	A, B	C	D	E
Black	0	10^0	±20%	For temperature compensation
Brown	1	10^1		
Red	2	10^2		
Orange	3	10^3		
Yellow	4	10^4		
Green	5	10^5		
Blue	6			
Violet	7			
Grey	8		±30%	High dielectric constant type
White	9			For temperature compensation
Gold		10^{-1}	± 5%	
Silver		10^{-2}	±10%	High dielectric constant type

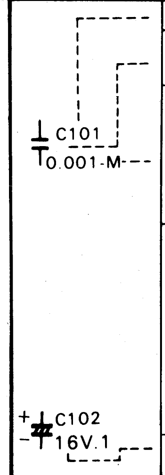
KAPITEL 5

SCHALTPLAN/LEITERPLATTEN-DIAGRAMM

Hinweise:

1. Die aufgeführten Spannungswerte wurden bei auf Minimum gestelltem Lautstärkeregler und ohne Signal gemessen. Die in Klammern (   ) gestellten Werte gelten für den Aufnahmemodus.
2. Bezeichnung der Widerstände und Kondensatoren

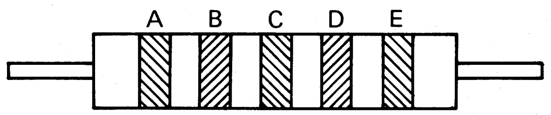
	Schaltkreis-Nr.	
	Wert	Keine Angabe: Ohm M: 1000 kOhm
	Toleranz	Keine Angabe: ± 5% K: ±10% M: ±20%
	Wattzahl	Keine Angabe: 1/4W
	Bauart	Keine Angabe: Kohlefilm RC: Verbundbauweise RW: Drahtspule RS: Metalloxidfilm RN: Fester Metallfilm

	Schaltkreis-Nr.		
	Wert	Keine Angabe: μF P : PF	
	Toleranz	Keine Angabe: ±10% J : ± 5% M : ± 20% Z : + 80%, − 20% D : ± 0.5pF C : ± 0.25pF	
	Bauart	⊥⊤	Keramik
		+ ⊥⊤ −	Electrolyt
		M ⊥⊤	Mylar
		P ⊥⊤	Polyester
		S ⊥⊤	Styrol
	Spannung	Keine Angabe: 50V	

3. Bei der Bestellung von Widerständen und Kondensatoren unbedingt Wert, Spannung und Bauart angeben.
4. Werden die mit "*" markierten Kondensatoren ausgetauscht, dann müssen due in der Stückliste spezifizierten Kondensatoren verwendet werden, da diese spezielle Temperatureigenschaften aufweisen.

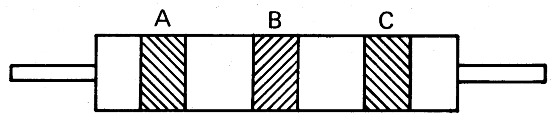
Ablesen der Kapazität und Induktivität der in Form von Widerständen ausgeführten Kondensatoren und Spulen

Kondensator



Kapazität: (10A+B)xC (pF)
Toleranz: D
Nennspannung: Farbe Rosa: 25V
Grün: 50V
Kennlinie: E

Spule



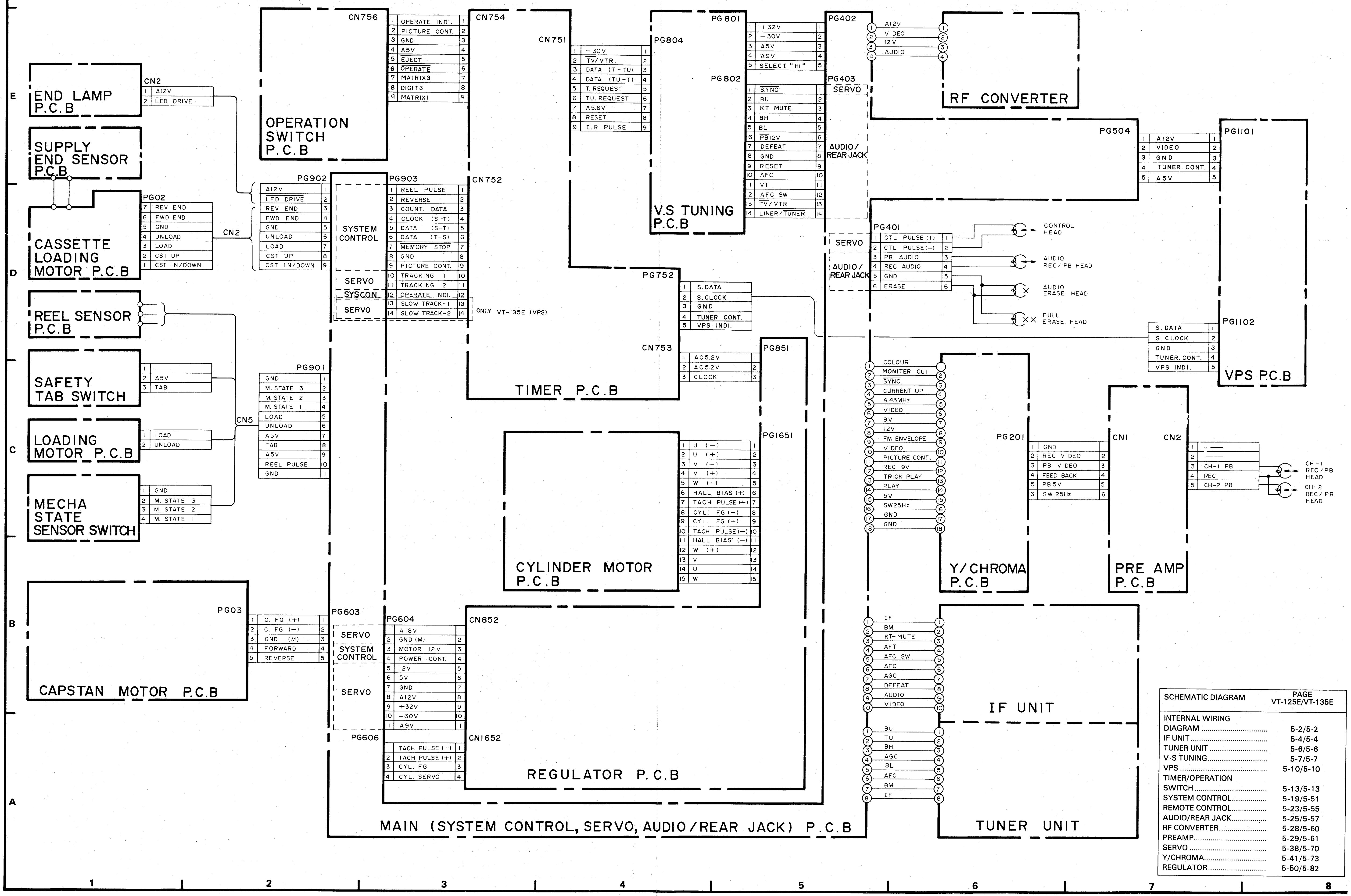
Induktivität: (10A+B)xC (μH)

Vorsichtsmaßnahmen bei der Verwendung von MOS-ICs

1. Die MOC-ICs werden für den Versand in schwarzem Schaumstoff verpackt. Dieser Schaumstoff ist elektrisch leitend und schließt die Leiter kurz, um Beschädigungen zu vermeiden. Die ICs während der Lagerung niemals aus der Schaumstoffverpackung entfernen. Die ICs nur unmittelbar vor der Verwendung auspacken und niemals auf Plastikteilen ablegen (statische Elektrizität!) bzw. in Styrol-Schaumstoff einsetzen.
2. Aufgrund von Leckagen am Lötkolben kann es während des Lötens zu Hochspannungen kommen; daher immer die Spitze des Lötkolbens erden und nur einen Niederspannungs-Lötkolben verwenden.
3. Statische Elektrizität von einigen tausend Volt kann sich aufgrund von Reibung im menschlichen Körper bzw. in aus Kunstfasern hergestellten Kleidern und Handschuhen aufbauen. Daher sollten auch die mit der Handhabung von ICs betrauten Personen geerdet werden.
4. Unbedingt die für die Reparaturen verwendeten Meßinstrumente wie Oszilloskop, Röhrenvoltmeter usw. erden.

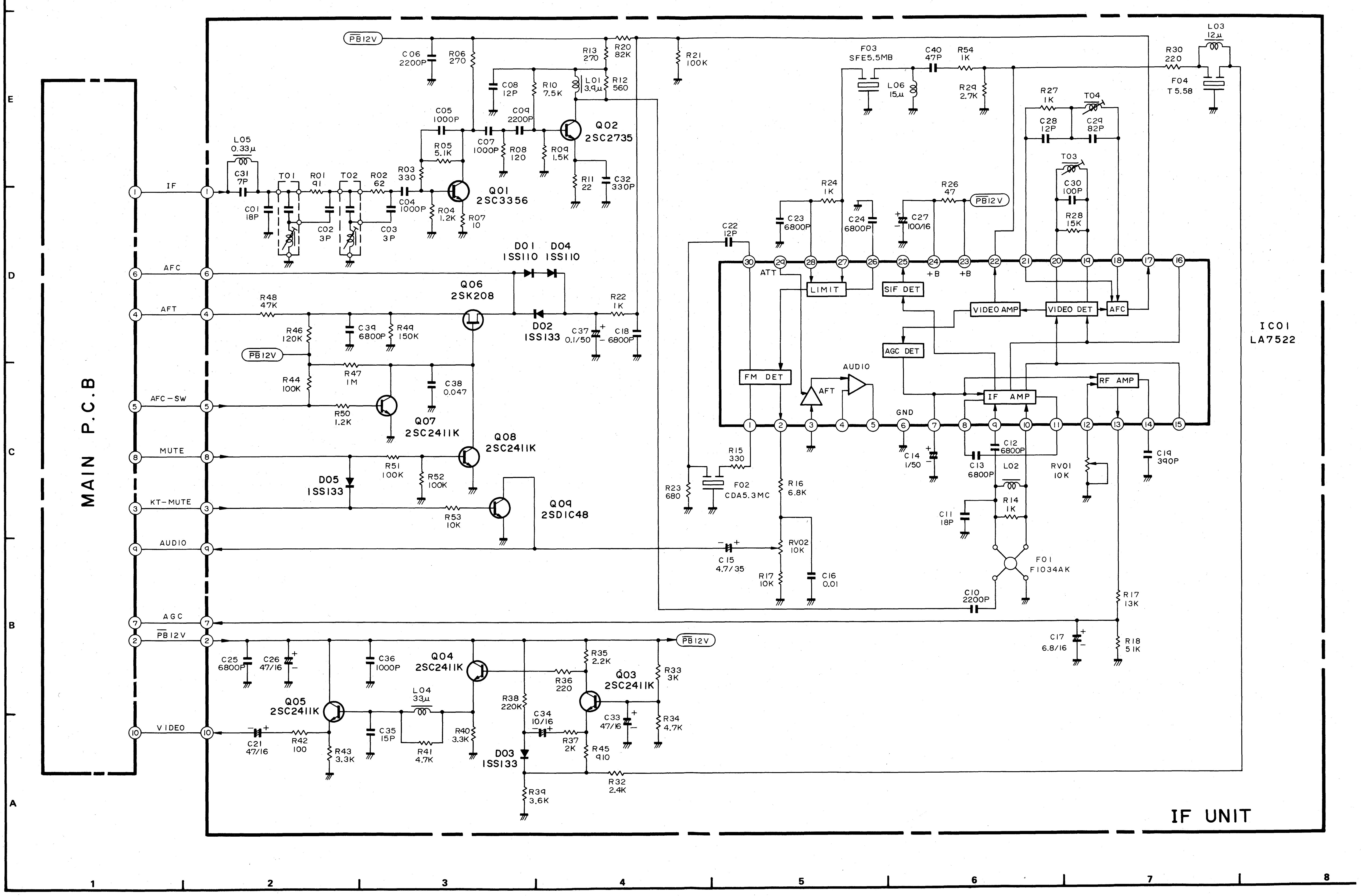
Farbe	A, B	C	D	E
Schwarz	0	10^0	±20%	Für Temperature-Kompensation
Braun	1	10^1		
Rot	2	10^2		
Orange	3	10^3		
Gelb	4	10^4		
Grün	5	10^5		
Blau	6			
Violett	7			
Grau	8		±30%	Bauart mit hoher Dielektrizitätskonstanter
Weiß	9			Für Temperatur-Kompensation
Gold		10^{-1}	± 5%	
Silber		10^{-2}	±10%	Bauart mit hoher Dielektrizitätskonstanter

INTERNAL WIRING DIAGRAM (KABELANSCHLUSSDIAGRAMM)

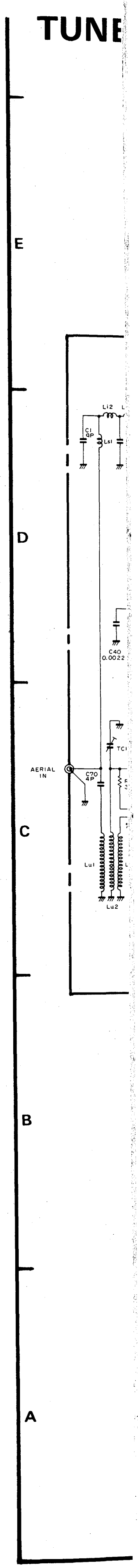

END LAMP P.C.B
CN2
1 A12V
2 LED DRIVE
SUPPLY END SENSOR P.C.B
CASSETTE LOADING MOTOR P.C.B
PG02
7 REV END
6 FWD END
5 GND
4 UNLOAD
3 LOAD
2 CST UP
1 CST IN/DOWN
CN2
REEL SENSOR P.C.B
SAFETY TAB SWITCH
1 —
2 A5V
3 TAB
LOADING MOTOR P.C.B
1 LOAD
2 UNLOAD
MECHA STATE SENSOR SWITCH
1 GND
2 M. STATE 3
3 M. STATE 2
4 M. STATE 1
CN5
CAPSTAN MOTOR P.C.B
PG03
1 C. FG (+)
2 C. FG (−)
3 GND (M)
4 FORWARD
5 REVERSE
OPERATION SWITCH P.C.B
CN756
1 OPERATE INDI.
2 PICTURE CONT.
3 GND
4 A5V
5 EJECT
6 OPERATE
7 MATRIX3
8 DIGIT3
9 MATRIX1
PG902
1 A12V
2 LED DRIVE
3 REV END
4 FWD END
5 GND
6 UNLOAD
7 LOAD
8 CST UP
9 CST IN/DOWN
SYSTEM CONTROL
SERVO
SYSCON
SERVO
PG903
1 REEL PULSE
2 REVERSE
3 COUNT. DATA
4 CLOCK (S−T)
5 DATA (S−T)
6 DATA (T−S)
7 MEMORY STOP
8 GND
9 PICTURE CONT.
10 TRACKING 1
11 TRACKING 2
12 OPERATE INDI.
13 SLOW TRACK−1
14 SLOW TRACK−2
ONLY VT-135E (VPS)
PG901
1 GND
2 M. STATE 3
3 M. STATE 2
4 M. STATE 1
5 LOAD
6 UNLOAD
7 A5V
8 TAB
9 A5V
10 REEL PULSE
11 GND
CN754
CN751
CN752
1 −30V
2 TV/VTR
3 DATA (T−TU)
4 DATA (TU−T)
5 T. REQUEST
6 TU. REQUEST
7 A5.6V
8 RESET
9 I.R PULSE
TIMER P.C.B
PG752
1 S. DATA
2 S. CLOCK
3 GND
4 TUNER CONT.
5 VPS INDI.
CN753
1 AC5.2V
2 AC5.2V
3 CLOCK
PG851
V.S TUNING P.C.B
PG804
PG801
1 +32V
2 −30V
3 A5V
4 A9V
5 SELECT "HI"
PG802
1 SYNC
2 BU
3 KT MUTE
4 BH
5 BL
6 PB12V
7 DEFEAT
8 GND
9 RESET
10 AFC
11 VT
12 AFC SW
13 TV/VTR
14 LINER/TUNER
PG402
PG403
SERVO
AUDIO/ REAR JACK
1 A12V
2 VIDEO
3 12V
4 AUDIO
RF CONVERTER
PG504
PG1101
1 A12V
2 VIDEO
3 GND
4 TUNER. CONT.
5 A5V
PG401
SERVO
AUDIO/ REAR JACK
1 CTL PULSE (+)
2 CTL PULSE (−)
3 PB AUDIO
4 REC AUDIO
5 GND
6 ERASE
CONTROL HEAD
AUDIO REC/PB HEAD
AUDIO ERASE HEAD
FULL ERASE HEAD
PG1102
S. DATA
S. CLOCK
GND
TUNER. CONT.
VPS INDI.
VPS P.C.B
CYLINDER MOTOR P.C.B
PG1651
1 U (−)
2 U (+)
3 V (−)
4 V (+)
5 W (−)
6 HALL BIAS (+)
7 TACH PULSE (+)
8 CYL. FG (−)
9 CYL. FG (+)
10 TACH PULSE (−)
11 HALL BIAS (−)
12 W (+)
13 V
14 U
15 W
1 COLOUR
MONITER CUT
2 SYNC
3 CURRENT UP
4 4.43MHz
5 VIDEO
6 9V
7 12V
8 FM ENVELOPE
9 VIDEO
10 PICTURE CONT.
11 REC 9V
12 TRICK PLAY
13 PLAY
14 5V
15 SW25Hz
16 GND
17 GND
18
Y/CHROMA P.C.B
PG201
1 GND
2 REC VIDEO
3 PB VIDEO
4 FEED BACK
5 PB5V
6 SW 25Hz
CN1
CN2
PRE AMP P.C.B
1 —
2 —
3 CH−1 PB
4 REC
5 CH−2 PB
CH−1 REC/PB HEAD
CH−2 REC/PB HEAD
PG603
SERVO
SYSTEM CONTROL
SERVO
PG604
1 A18V
2 GND (M)
3 MOTOR 12V
4 POWER CONT.
5 12V
6 5V
7 GND
8 A12V
9 +32V
10 −30V
11 A9V
CN852
PG606
CN1652
1 TACH PULSE (−)
2 TACH PULSE (+)
3 CYL. FG
4 CYL. SERVO
REGULATOR P.C.B
MAIN (SYSTEM CONTROL, SERVO, AUDIO/REAR JACK) P.C.B
1 IF
2 BM
3 KT−MUTE
4 AFT
5 AFC SW
6 AFC
7 AGC
8 DEFEAT
9 AUDIO
10 VIDEO
IF UNIT
1 BU
2 TU
3 BH
4 AGC
5 BL
6 AFC
7 BM
8 IF
TUNER UNIT
E
D
C
B
A
1
2
3
4
5
6
7
8

SCHEMATIC DIAGRAM	PAGE VT-125E/VT-135E
INTERNAL WIRING	
DIAGRAM	5-2/5-2
IF UNIT	5-4/5-4
TUNER UNIT	5-6/5-6
V-S TUNING	5-7/5-7
VPS	5-10/5-10
TIMER/OPERATION	
SWITCH	5-13/5-13
SYSTEM CONTROL	5-19/5-51
REMOTE CONTROL	5-23/5-55
AUDIO/REAR JACK	5-25/5-57
RF CONVERTER	5-28/5-60
PREAMP	5-29/5-61
SERVO	5-38/5-70
Y/CHROMA	5-41/5-73
REGULATOR	5-50/5-82

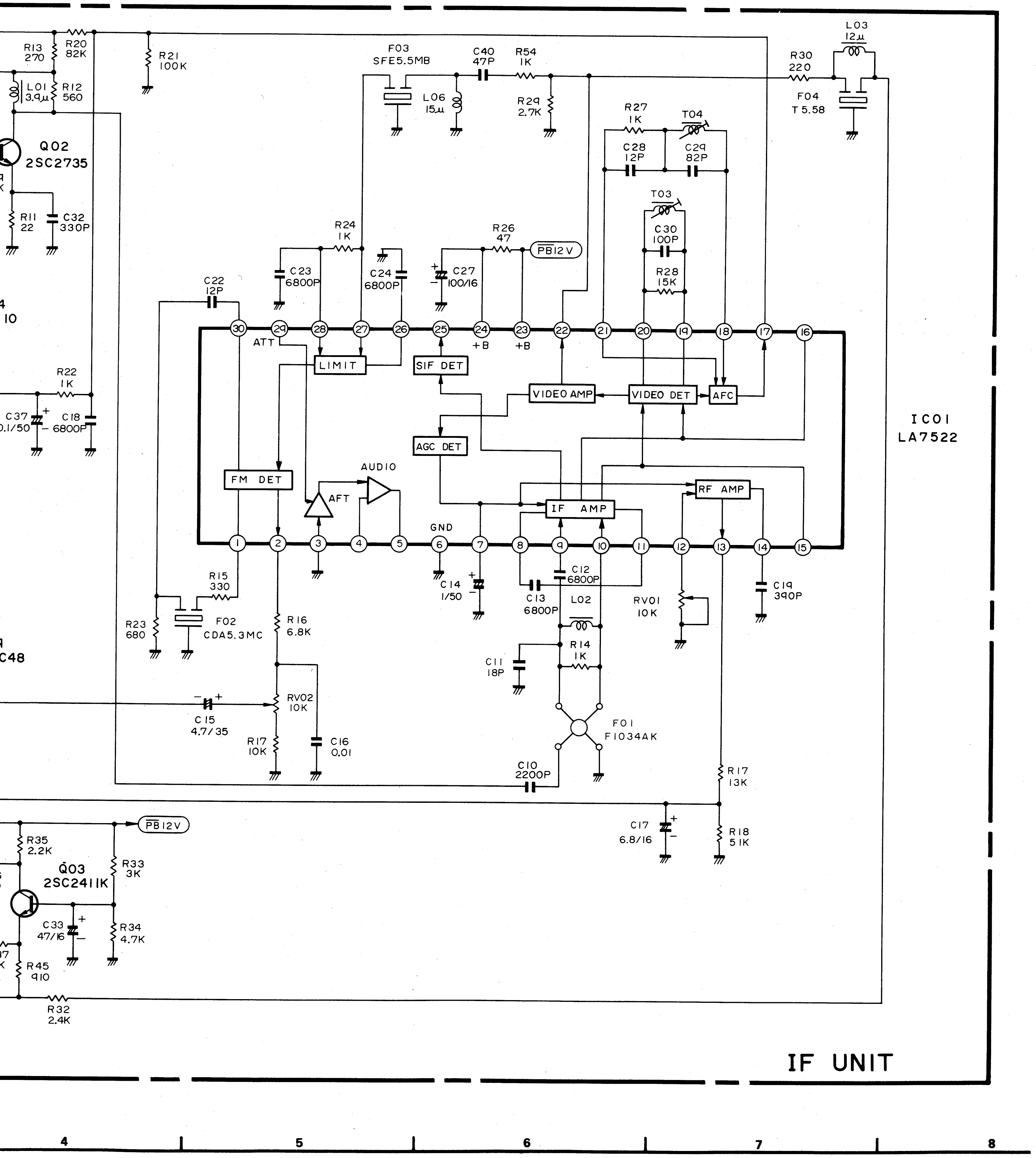
IF UNIT (ZF-EINHEIT)



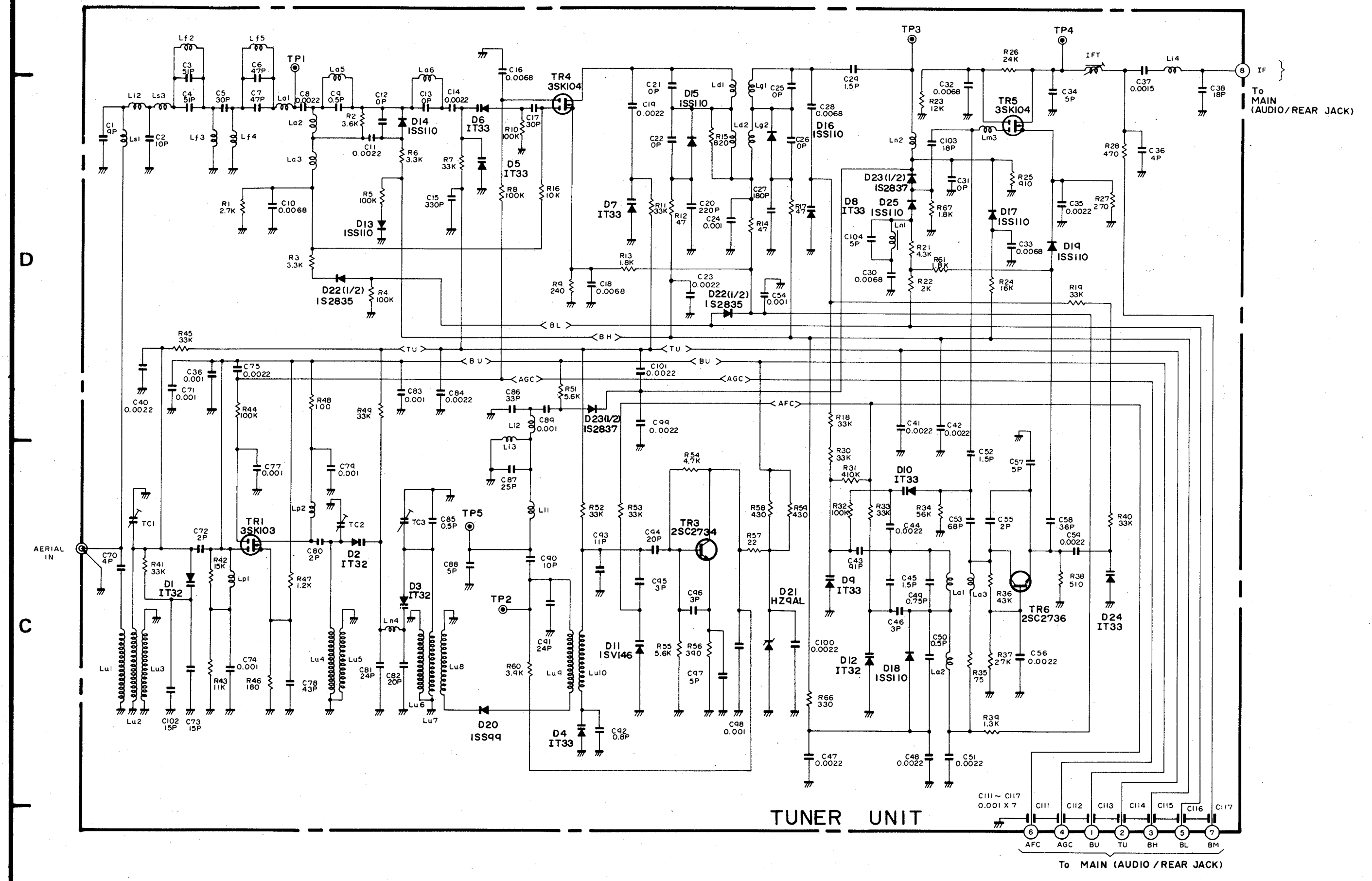
E
D
C
B
A
1
2
3
4
5
6
7
8
MAIN P.C.B
IF UNIT
IF
AFC
AFT
AFC-SW
MUTE
KT-MUTE
AUDIO
AGC
PB12V
VIDEO
PB12V
C06 2200P
R06 270
R13 270
R20 82K
R21 100K
C08 12P
R10 7.5K
L01 3.9μ
R12 560
C05 1000P
C09 2200P
Q02 2SC2735
C07 1000P
R08 120
R09 1.5K
R05 5.1K
R03 330
R11 22
C32 330P
L05 0.33μ
C31 7P
T01
R01 91
T02
R02 62
C04 1000P
Q01 2SC3356
C01 18P
C02 3P
C03 3P
R04 1.2K
R07 10
D01 1SS110
D04 1SS110
Q06 2SK208
R48 47K
R22 1K
R46 120K
C39 6800P
R49 150K
D02 1SS133
C37 0.1/50
C18 6800P
PB12V
R44 100K
R47 1M
C38 0.047
R50 1.2K
Q07 2SC2411K
Q08 2SC2411K
R51 100K
R52 100K
D05 1SS133
R53 10K
Q09 2SD1C48
F03 SFE5.5MB
L06 15μ
C40 47P
R54 1K
R29 2.7K
R30 220
L03 12μ
F04 T5.58
R27 1K
T04
C28 12P
C29 82P
T03
C30 100P
R28 15K
R24 1K
C23 6800P
C24 6800P
C27 100/16
R26 47
PB12V
C22 12P
ATT
+B
+B
LIMIT
SIF DET
VIDEO AMP
VIDEO DET
AFC
AGC DET
FM DET
AUDIO
AFT
GND
IF AMP
RF AMP
IC01 LA7522
R15 330
F02 CDA5.3MC
R23 680
R16 6.8K
C14 1/50
C13 6800P
C12 6800P
L02
R14 1K
C11 18P
RV01 10K
C19 390P
F01 F1034AK
C15 4.7/35
RV02 10K
R17 10K
C16 0.01
C10 2200P
R17 13K
C17 6.8/16
R18 51K
C25 6800P
C26 47/16
C36 1000P
Q04 2SC2411K
R35 2.2K
R33 3K
R36 220
Q03 2SC2411K
Q05 2SC2411K
L04 33μ
R38 220K
C34 10/16
C33 47/16
R34 4.7K
C21 47/16
R42 100
C35 15P
R41 4.7K
R40 3.3K
R37 2K
R45 910
R43 3.3K
D03 1SS133
R32 2.4K
R39 3.6K



TUNE
E
D
C
B
A
AERIAL IN

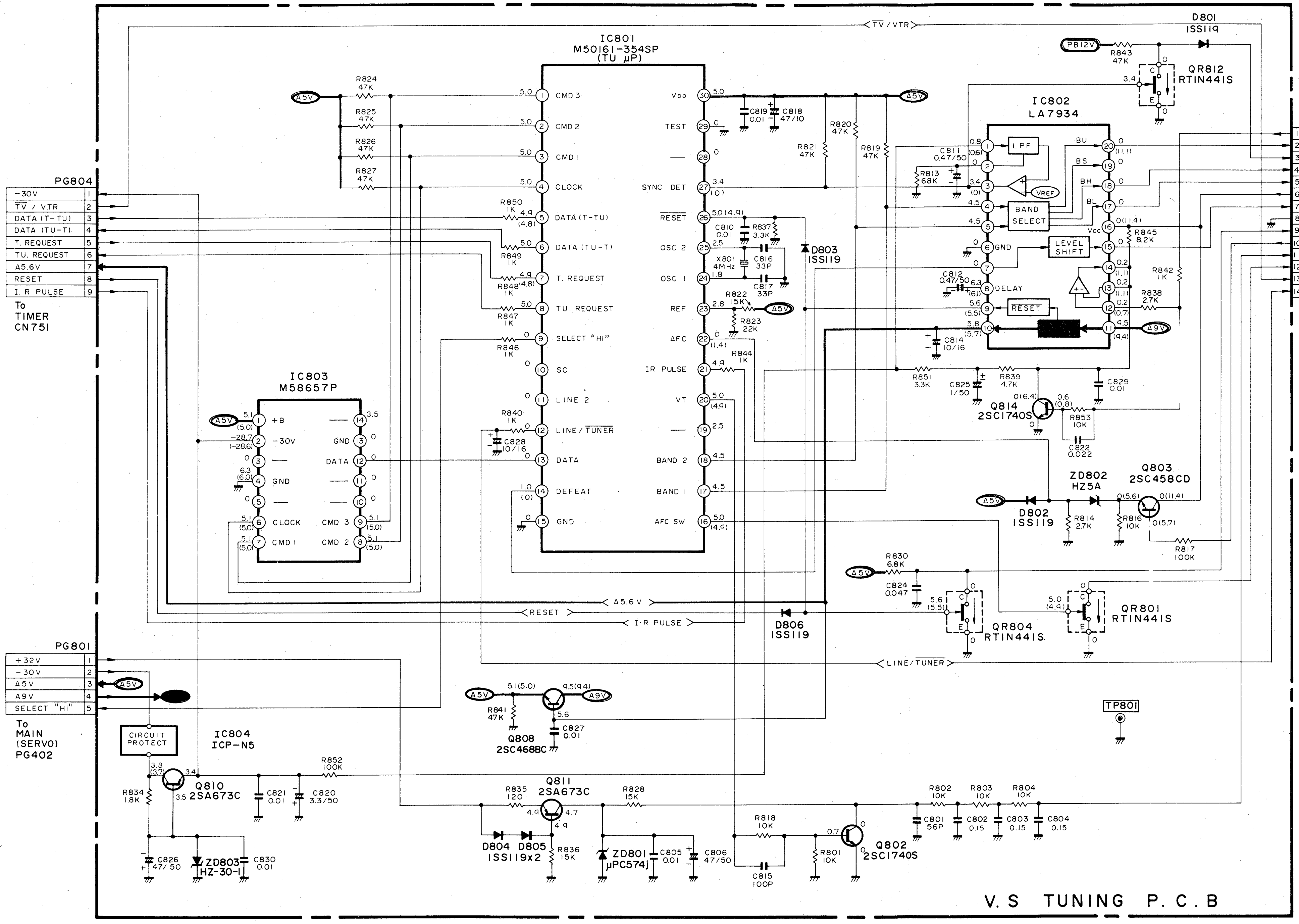

IF UNIT
IC01
LA7522
Q02
2SC2735
Q03
2SC2411K
F03
SFE5.5MB
F04
T 5.58
F02
CDA5.3MC
F01
F1034AK
L03
12µ
L06
15µ
L01
3.9µ
L02
T03
T04
RV01
10K
RV02
10K
LIMIT
SIF DET
VIDEO AMP
VIDEO DET
AFC
AGC DET
FM DET
AFT
AUDIO
IF AMP
RF AMP
ATT
GND
+B
PB12V
R13 270
R20 82K
R21 100K
R12 560
R11 22
C32 330P
R22 1K
C37 0.1/50
C18 6800P
C40 47P
R54 1K
R29 2.7K
R30 220
R27 1K
C28 12P
C29 82P
C30 100P
R28 15K
R24 1K
C23 6800P
C24 6800P
R26 47
C27 100/16
C22 12P
R15 330
R23 680
R16 6.8K
C15 4.7/35
R17 10K
C16 0.01
C14 1/50
C13 6800P
C12 6800P
C11 18P
R14 1K
C10 2200P
C19 390P
R17 13K
R18 51K
C17 6.8/16
R35 2.2K
R33 3K
C33 47/16
R34 4.7K
R45 910
R32 2.4K
4
5
6
7
8

TUNER UNIT/(TUNER-EINHEIT)

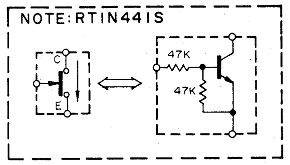

TUNER UNIT
AERIAL IN
IF
To MAIN (AUDIO/REAR JACK)
TR1 3SK103
TR3 2SC2734
TR4 3SK104
TR5 3SK104
TR6 2SC2736
TP1
TP2
TP3
TP4
TP5
IFT
AFC
AGC
BU
TU
BH
BL
BM
C111~C117 0.001 X 7

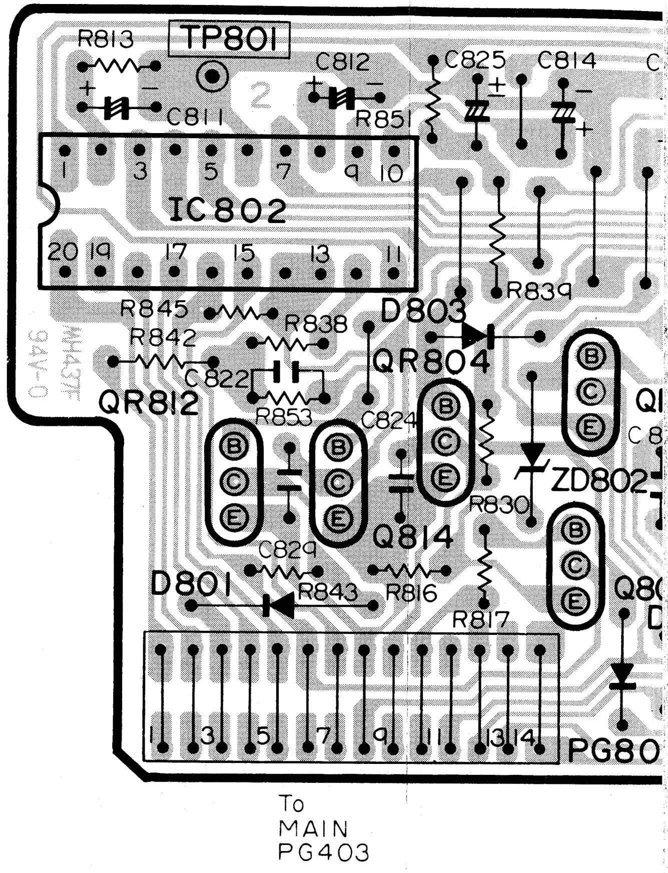
SCHEMATIC DIAGRAM	PAGE VT-125E/VT-135E
INTERNAL WIRING DIAGRAM	5-2/5-2
IF UNIT	5-4/5-4
TUNER UNIT	5-6/5-6
V-S TUNING	5-7/5-7
VPS	5-10/5-10
TIMER/OPERATION SWITCH	5-13/5-13
SYSTEM CONTROL	5-19/5-51
REMOTE CONTROL	5-23/5-55
AUDIO/REAR JACK	5-25/5-57
RF CONVERTER	5-28/5-60
PREAMP	5-29/5-61
SERVO	5-38/5-70
Y/CHROMA	5-41/5-73
REGULATOR	5-50/5-82

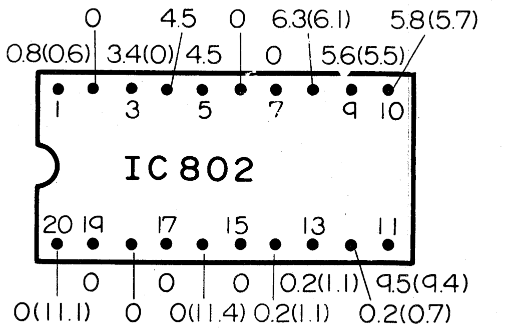
V·S TUNING(SPANNUNGSSYNTHESIZER-TUNER)


IC801
M50161-354SP
(TU µP)
IC802
LA7934
IC803
M58657P
IC804
ICP-N5
PG804
-30V
TV / VTR
DATA (T-TU)
DATA (TU-T)
T. REQUEST
TU. REQUEST
A5.6V
RESET
I. R PULSE
To
TIMER
CN751
PG801
+32V
-30V
A5V
A9V
SELECT "Hi"
To
MAIN
(SERVO)
PG402
PG802
SYNC
BU
KT MUTE
BH
BL
PB12V
DEFEAT
GND
RESET
AFC
VT
AFC SW
TV / VTR
LINE / TUNER
SERVO
AUDIO/
REAR JACK
To
MAIN
PG403
CMD 3
CMD 2
CMD 1
CLOCK
DATA (T-TU)
DATA (TU-T)
T. REQUEST
TU. REQUEST
SELECT "Hi"
SC
LINE 2
LINE / TUNER
DATA
DEFEAT
GND
VDD
TEST
SYNC DET
RESET
OSC 2
OSC 1
REF
AFC
IR PULSE
VT
BAND 2
BAND 1
AFC SW
LPF
VREF
BAND
SELECT
LEVEL
SHIFT
DELAY
RESET
+B
-30V
GND
CLOCK
CMD 1
DATA
CMD 3
CMD 2
CIRCUIT
PROTECT
D801
1SS119
QR812
RTIN441S
D802
1SS119
ZD802
HZ5A
Q803
2SC458CD
Q814
2SC1740S
QR804
RTIN441S
QR801
RTIN441S
D803
1SS119
D806
1SS119
Q808
2SC468BC
Q810
2SA673C
Q811
2SA673C
D804 D805
1SS119x2
ZD801
µPC574J
Q802
2SC1740S
ZD803
HZ-30-1
X801
4MHz
TP801
TV/VTR
A5.6V
RESET
I·R PULSE
LINE/TUNER
V. S TUNING P. C. B

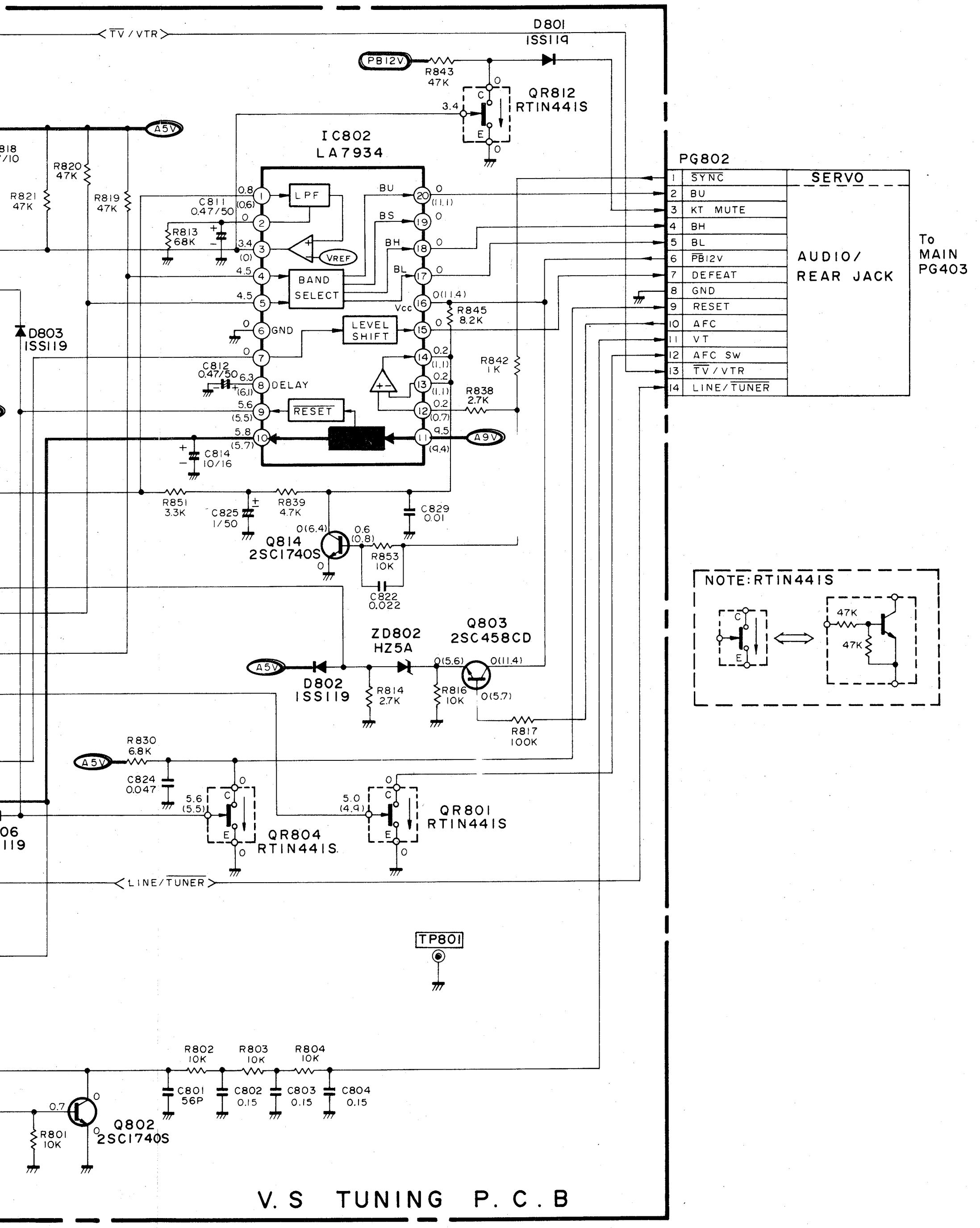
※ ONE VOLTAGE: PB OR REC MODE, TWO VOLTAGES: PB AND (REC) MODE.


NOTE:RTIN441S
47K
47K

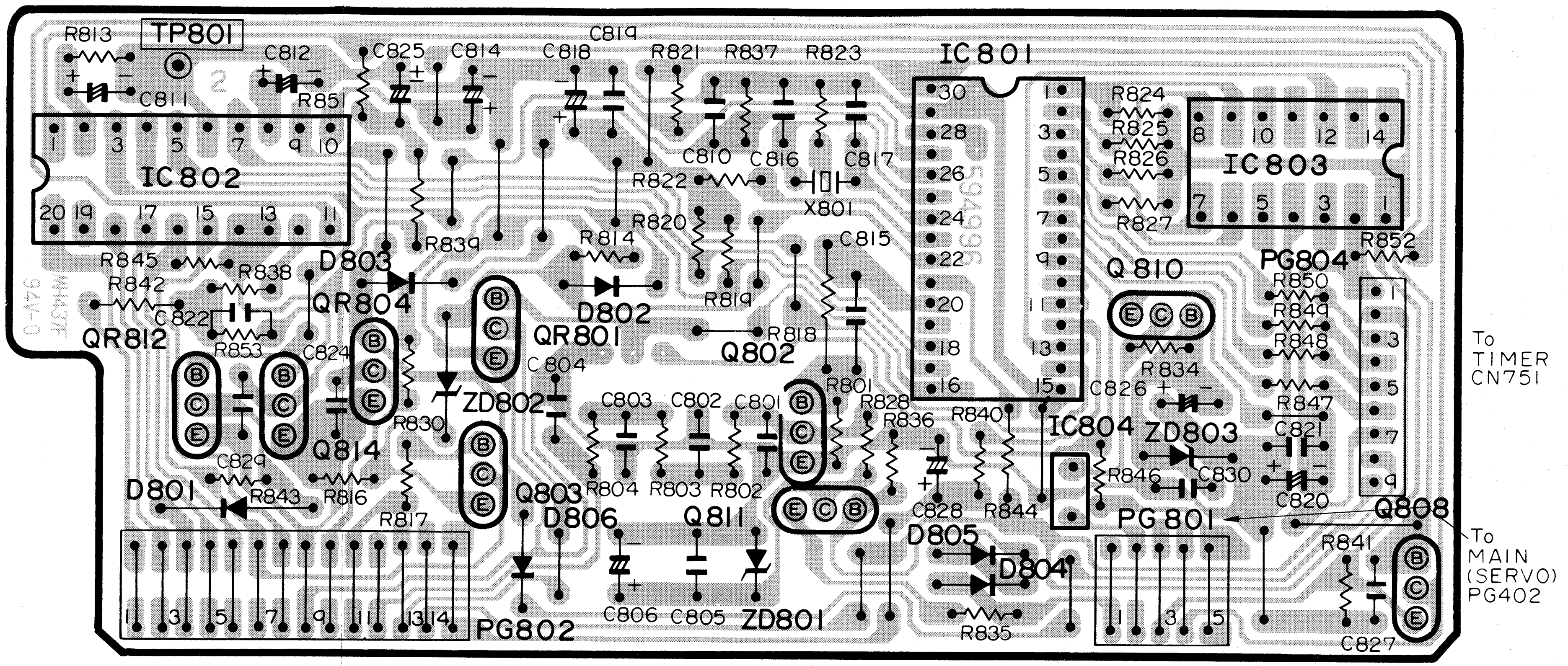

R813
TP801
C812
C825
C814
C811
R851
IC802
R839
R845
R838
D803
R842
QR804
QR812
C822
R853
C824
ZD802
R830
C829
Q814
D801
R843
R816
R817
PG80
To
MAIN
PG403


IC802
0
4.5
0
6.3(6.1)
5.8(5.7)
0.8(0.6)
3.4(0)
4.5
0
5.6(5.5)
0(11.1)
0
0(11.4)
0.2(1.1)
0.2(0.7)
0
0
0
0.2(1.1)
9.5(9.4)

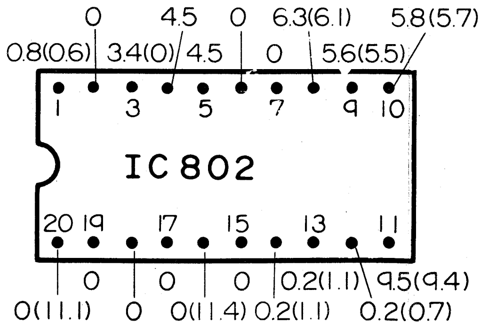
※ ONE VOLTAGE : PB OR REC
TWO VOLTAGES : PB AND (RE


TV/VTR
D801 1SS119
PB12V
R843 47K
QR812 RTIN441S
A5V
IC802 LA7934
LPF
VREF
BAND SELECT
LEVEL SHIFT
DELAY
RESET
GND
Vcc
R845 8.2K
R842 1K
R838 2.7K
A9V
C811 0.47/50
R813 68K
C812 0.47/50
C814 10/16
R851 3.3K
C825 1/50
R839 4.7K
C829 0.01
Q814 2SC1740S
R853 10K
C822 0.022
ZD802 HZ5A
Q803 2SC458CD
D802 1SS119
R814 2.7K
R816 10K
R817 100K
R830 6.8K
C824 0.047
QR804 RTIN441S
QR801 RTIN441S
LINE/TUNER
TP801
R802 10K
R803 10K
R804 10K
C801 56P
C802 0.15
C803 0.15
C804 0.15
R801 10K
Q802 2SC1740S
D803 1SS119
R820 47K
R821 47K
R819 47K
PG802
SERVO
1 SYNC
2 BU
3 KT MUTE
4 BH
5 BL
6 PB12V
7 DEFEAT
8 GND
9 RESET
10 AFC
11 VT
12 AFC SW
13 TV/VTR
14 LINE/TUNER
AUDIO/ REAR JACK
To MAIN PG403
NOTE: RTIN441S
47K
47K
V. S TUNING P. C. B

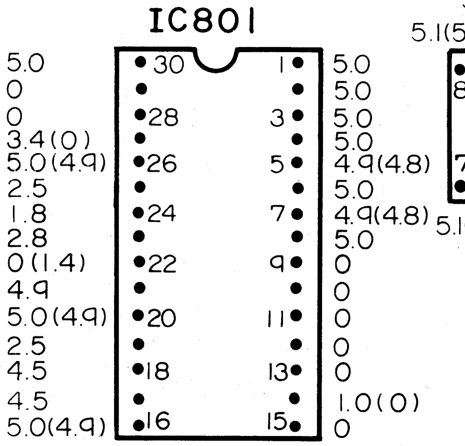
PB AND (REC) MODE.

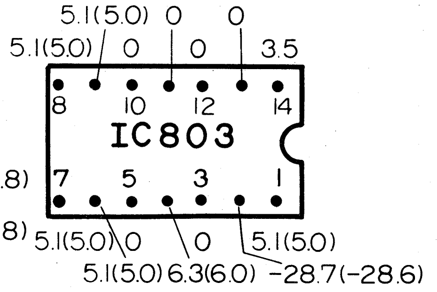

R813
TP801
C812
C811
R851
C825
C814
C818
C819
R821
R837
R823
IC801
IC802
IC803
R824
R825
R826
R827
C810
C816
C817
R822
X801
R820
R814
C815
R839
D803
QR804
R845
R842
R838
C822
QR812
R853
C824
D802
QR801
R819
R818
Q802
C804
ZD802
R830
Q810
R834
C826
PG804
R852
R850
R849
R848
R847
C821
C820
To TIMER CN751
C803
C802
C801
R801
R828
R836
R840
IC804
ZD803
R846
C830
C829
Q814
R816
R843
D801
R817
Q803
D806
R804
R803
R802
Q811
C828
R844
PG801
Q808
D805
D804
R841
To MAIN (SERVO) PG402
C806
C805
ZD801
R835
C827
PG802
To MAIN PG403
MH437
94V-0

V·S TUNING P.C.B

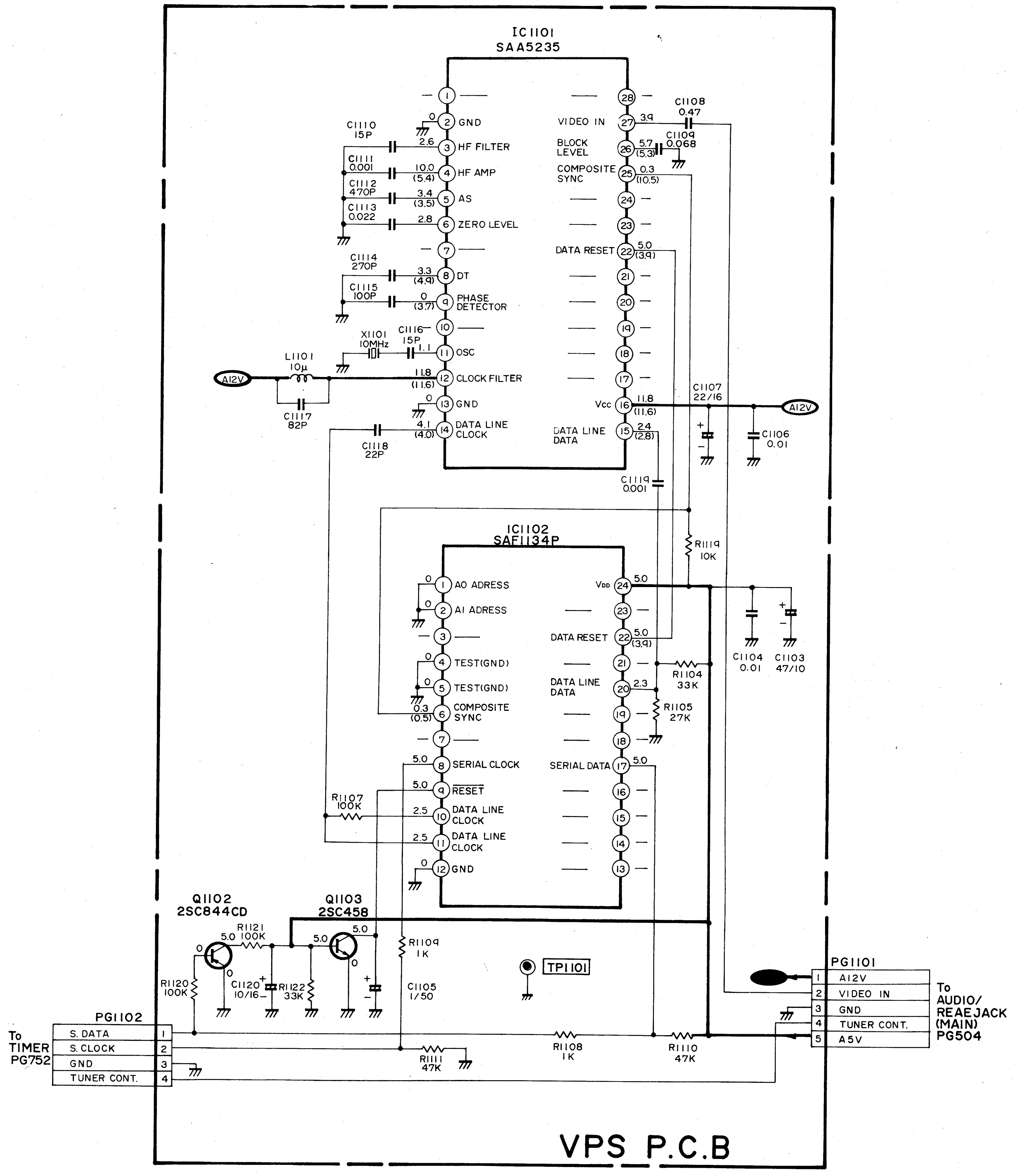

0
4.5
0
6.3(6.1)
5.8(5.7)
0.8(0.6)
3.4(0)
4.5
0
5.6(5.5)
IC802
0
0
0
0.2(1.1)
9.5(9.4)
0(11.1)
0
0(11.4)
0.2(1.1)
0.2(0.7)

※ ONE VOLTAGE : PB OR REC MODE,
TWO VOLTAGES : PB AND (REC) MODE.


IC801
5.0
0
0
3.4(0)
5.0(4.9)
2.5
1.8
2.8
0(1.4)
4.9
5.0(4.9)
2.5
4.5
4.5
5.0(4.9)
5.0
5.0
5.0
5.0
4.9(4.8)
5.0
4.9(4.8)
5.0
0
0
0
0
0
0
1.0(0)
0


5.1(5.0)
0
0
5.1(5.0)
0
0
3.5
IC803
5.1(5.0)
0
5.1(5.0)
5.1(5.0)
6.3(6.0)
-28.7(-28.6)

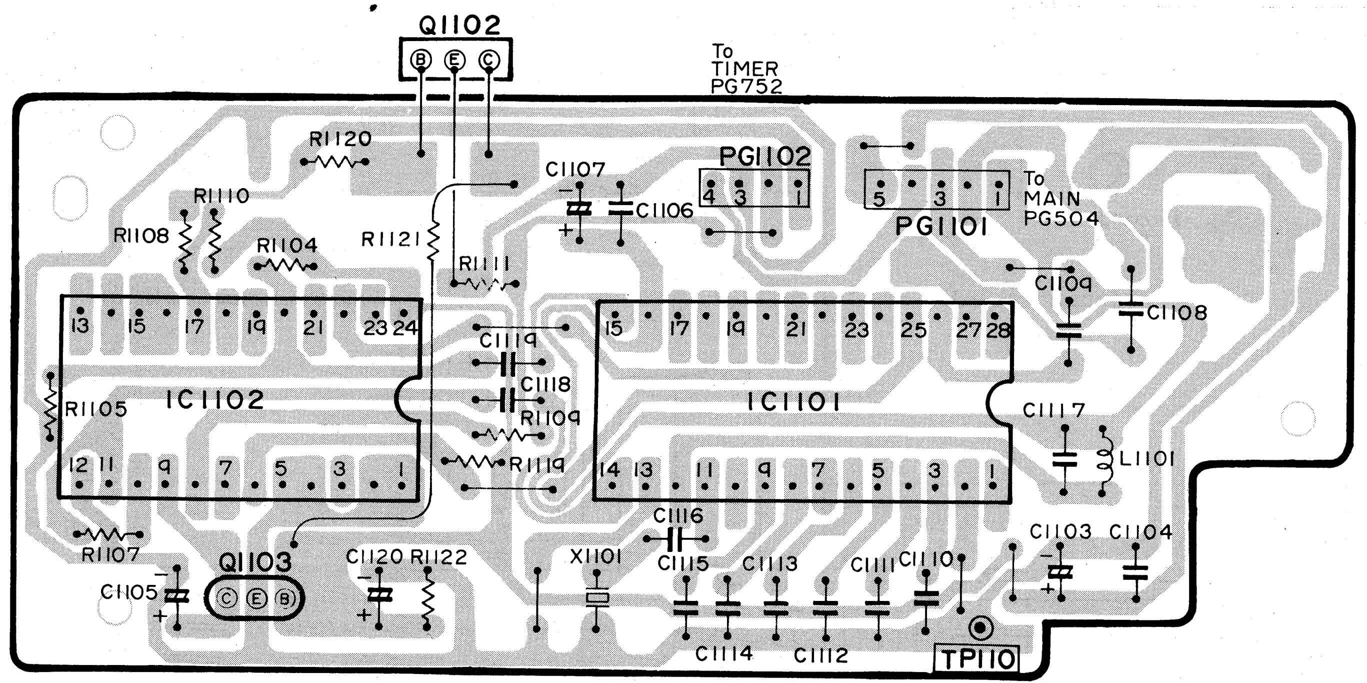
VPS (VIDEO PROGRAMME SYSTEM)



IC1101
SAA5235
GND
HF FILTER
HF AMP
AS
ZERO LEVEL
DT
PHASE DETECTOR
OSC
CLOCK FILTER
DATA LINE CLOCK
VIDEO IN
BLOCK LEVEL
COMPOSITE SYNC
DATA RESET
Vcc
DATA LINE DATA
C1108 0.47
C1109 0.068
C1110 15P
C1111 0.001
C1112 470P
C1113 0.022
C1114 270P
C1115 100P
X1101 10MHz
C1116 15P
L1101 10μ
C1117 82P
C1118 22P
C1107 22/16
C1106 0.01
C1119 0.001
A12V
IC1102
SAF1134P
A0 ADRESS
A1 ADRESS
TEST(GND)
COMPOSITE SYNC
SERIAL CLOCK
RESET
DATA LINE CLOCK
DATA LINE
GND
VDD
DATA RESET
DATA LINE DATA
SERIAL DATA
R1119 10K
R1104 33K
R1105 27K
C1104 0.01
C1103 47/10
R1107 100K
Q1102 2SC844CD
Q1103 2SC458
R1121 100K
R1120 100K
C1120 10/16
R1122 33K
R1109 1K
C1105 1/50
TP1101
PG1102
S. DATA
S. CLOCK
GND
TUNER CONT.
To TIMER PG752
R1111 47K
R1108 1K
R1110 47K
PG1101
A12V
VIDEO IN
GND
TUNER CONT.
A5V
To AUDIO/ REAE JACK (MAIN) PG504
VPS P.C.B

ONE VOLTAGE: PB OR REC MODE, TWO VOLTAGES: PB AND(REC) MODE.

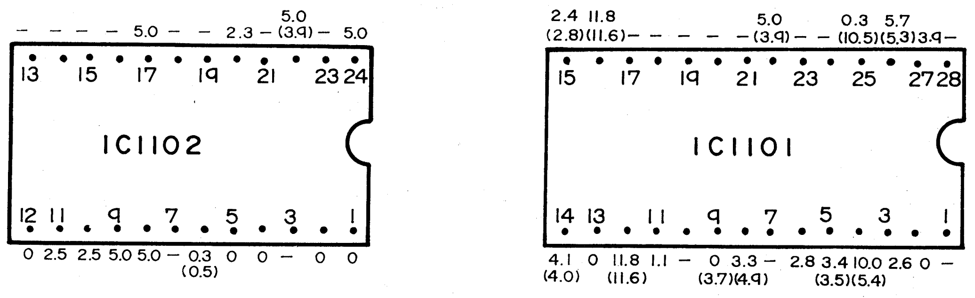
VT-125E (VPS) VPS P.C. BOARD



Q1102
B E C
To TIMER PG752
R1120
R1110
R1108
R1104
R1121
R1111
C1107
C1106
PG1102
PG1101
To MAIN PG504
C1109
C1108
IC1102
IC1101
R1105
C1119
C1118
R1109
R1119
C1117
L1101
C1116
R1107
C1105
Q1103
C E B
C1120 R1122
X1101
C1115
C1113
C1111 C1110
C1103 C1104
C1114
C1112
TP110

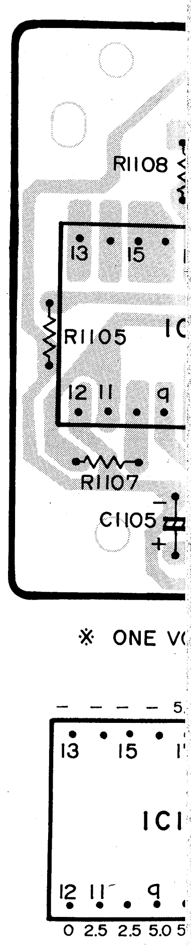
VPS P.C.B

※ ONE VOLTAGE: PB OR REC MODE, TWO VOLTAGES: PB AND (REC) MODE.



5.0 2.3 (3.9) 5.0
IC1102
0 2.5 2.5 5.0 5.0 0.3 (0.5) 0 0 0 0
2.4 (2.8) 11.8 (11.6) 5.0 (3.9) 0.3 (10.5) 5.7 (5.3) 3.9
IC1101
4.1 (4.0) 0 11.8 (11.6) 1.1 0 3.3 (3.7) 2.8 (4.9) 3.4 (3.5) 10.0 (5.4) 2.6 0

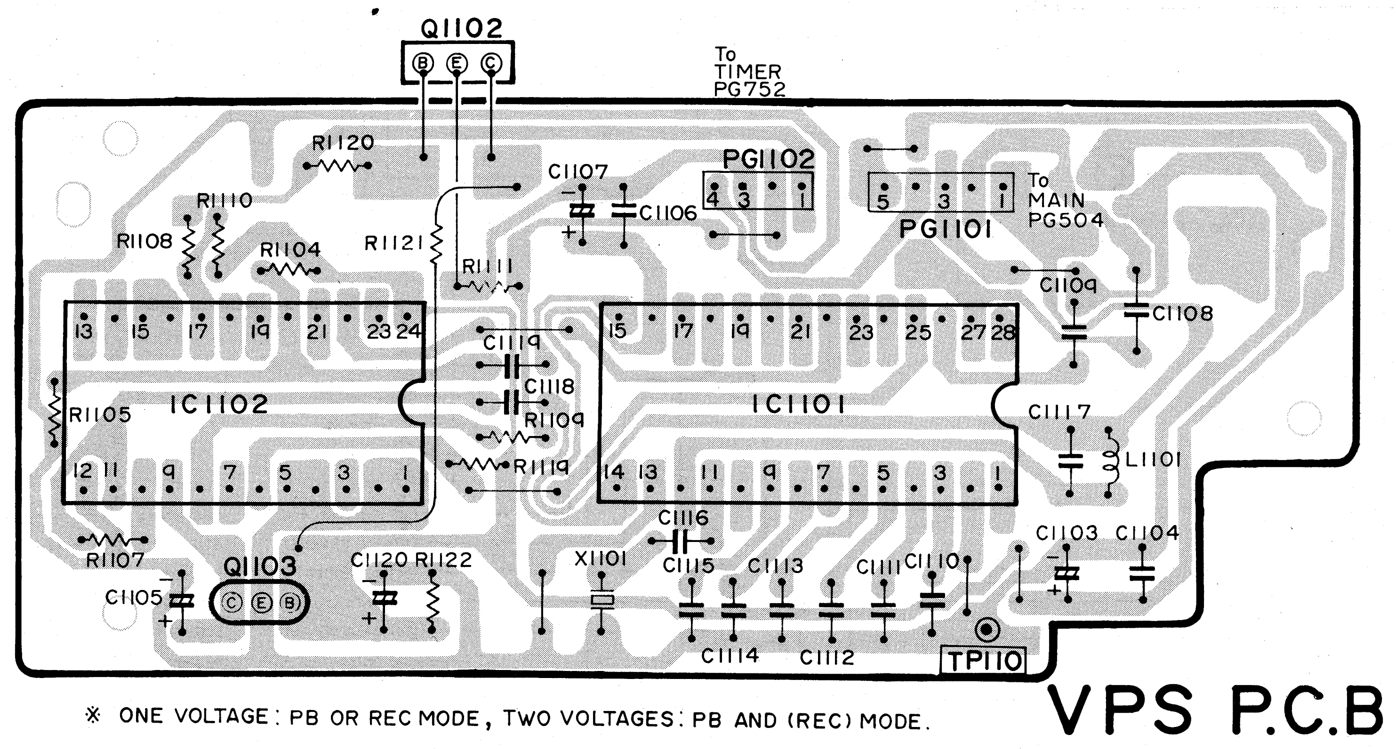
VT-1



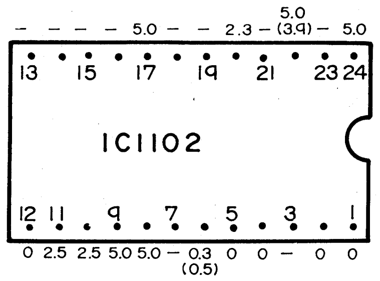
R1108
R1105
R1107
C1105
ICI

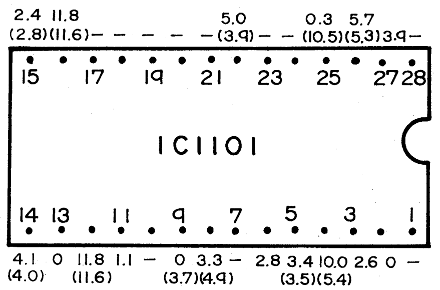
※ ONE V

VT-125E (VPS) VPS P.C. BOARD

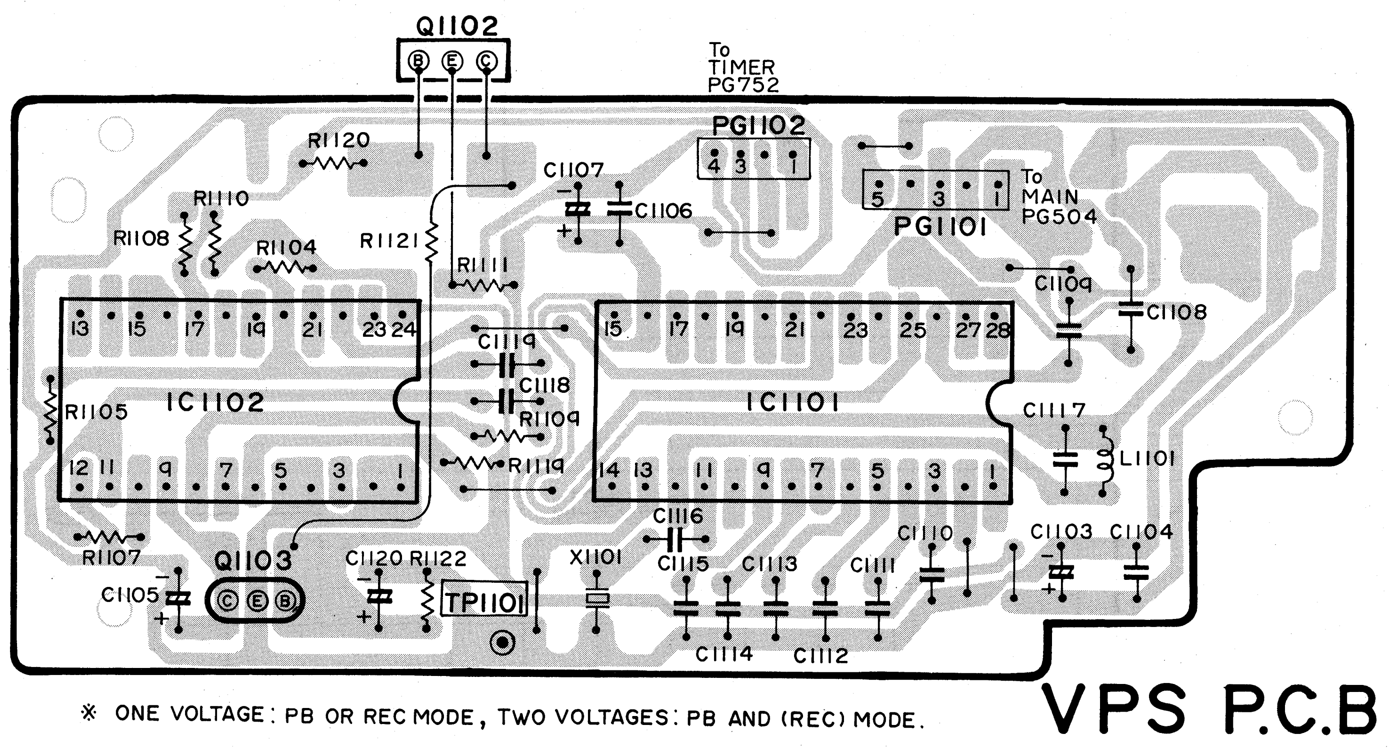

Q1102
B E C
To TIMER PG752
R1120
R1110
R1108
R1104
R1121
R1111
C1107
C1106
PG1102
4 3 1
PG1101
5 3 1
To MAIN PG504
C1109
C1108
C1119
C1118
R1109
R1119
IC1102
IC1101
R1105
C1117
L1101
C1116
R1107
Q1103
C E B
C1105
C1120 R1122
X1101
C1115
C1113
C1111
C1110
C1103
C1104
C1114
C1112
TP110
VPS P.C.B

※ ONE VOLTAGE : PB OR REC MODE, TWO VOLTAGES : PB AND (REC) MODE.

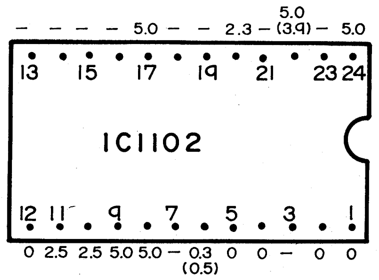

– – – – 5.0 – – 2.3 – 5.0 (3.9) – 5.0
13 15 17 19 21 23 24
IC1102
12 11 9 7 5 3 1
0 2.5 2.5 5.0 5.0 – 0.3 (0.5) 0 0 – 0 0

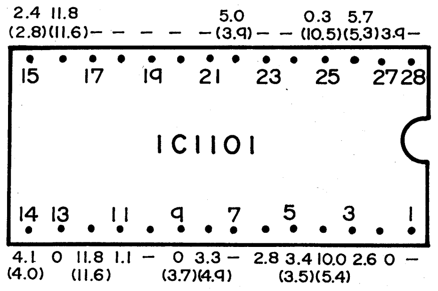

2.4 (2.8) 11.8 (11.6) – – – – – 5.0 (3.9) – – 0.3 (10.5) 5.7 (5.3) 3.9 –
15 17 19 21 23 25 27 28
IC1101
14 13 11 9 7 5 3 1
4.1 (4.0) 0 11.8 (11.6) 1.1 – 0 3.3 (3.7) – (4.9) 2.8 3.4 (3.5) 10.0 (5.4) 2.6 0 –

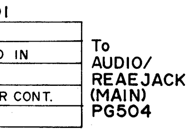
VT-135E (VPS) VPS P.C. BOARD

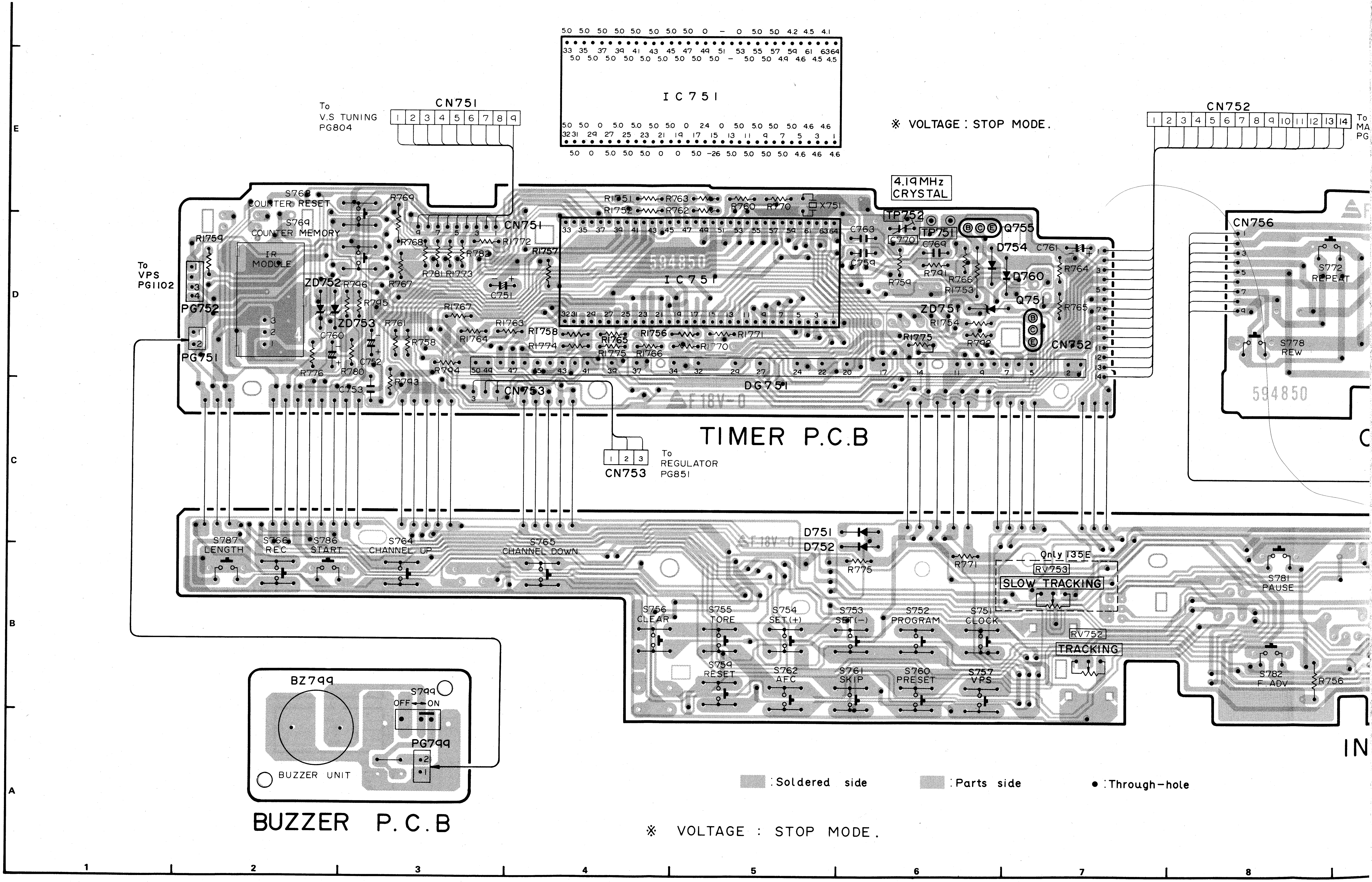

Q1102
B E C
To TIMER PG752
R1120
R1110
R1108
R1104
R1121
R1111
C1107
C1106
PG1102
4 3 1
PG1101
5 3 1
To MAIN PG504
C1109
C1108
C1119
C1118
R1109
R1119
IC1102
IC1101
R1105
C1117
L1101
C1116
R1107
Q1103
C E B
C1105
C1120 R1122
TP1101
X1101
C1115
C1113
C1111
C1110
C1103
C1104
C1114
C1112
VPS P.C.B

※ ONE VOLTAGE : PB OR REC MODE, TWO VOLTAGES : PB AND (REC) MODE.


– – – – 5.0 – – 2.3 – 5.0 (3.9) – 5.0
13 15 17 19 21 23 24
IC1102
12 11 9 7 5 3 1
0 2.5 2.5 5.0 5.0 – 0.3 (0.5) 0 0 – 0 0

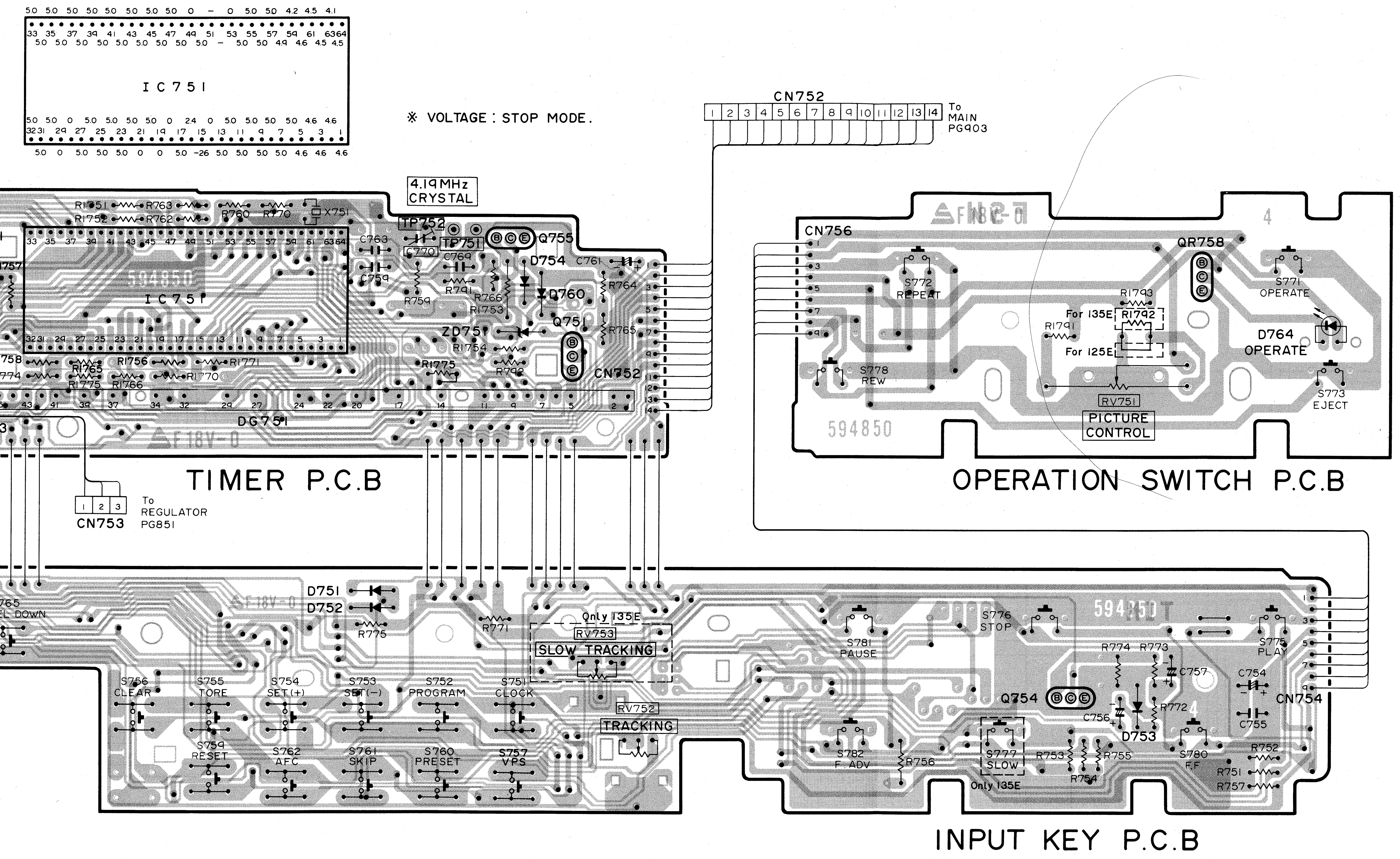

2.4 (2.8) 11.8 (11.6) – – – – – 5.0 (3.9) – – 0.3 (10.5) 5.7 (5.3) 3.9 –
15 17 19 21 23 25 27 28
IC1101
14 13 11 9 7 5 3 1
4.1 (4.0) 0 11.8 (11.6) 1.1 – 0 3.3 (3.7) – (4.9) 2.8 3.4 (3.5) 10.0 (5.4) 2.6 0 –


IN
R CONT.
To AUDIO/ REAEJACK (MAIN) PG504


5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 0 – 0 5.0 5.0 4.2 4.5 4.1
33 35 37 39 41 43 45 47 49 51 53 55 57 59 61 63 64
5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 – 5.0 5.0 4.9 4.6 4.5 4.5
IC751
5.0 5.0 0 5.0 5.0 5.0 5.0 0 2.4 0 5.0 5.0 5.0 5.0 4.6 4.6
32 31 29 27 25 23 21 19 17 15 13 11 9 7 5 3 1
5.0 0 5.0 5.0 5.0 0 0 5.0 -2.6 5.0 5.0 5.0 5.0 4.6 4.6 4.6
To V.S TUNING PG804
CN751
1 2 3 4 5 6 7 8 9
※ VOLTAGE : STOP MODE.
CN752
1 2 3 4 5 6 7 8 9 10 11 12 13 14
To MA PG
4.19MHz CRYSTAL
To VPS PG1102
PG752
PG751
S768 COUNTER RESET
S769 COUNTER MEMORY
IR MODULE
R1759
ZD752
ZD753
R796
R795
R769
R768
R767
R781
R1773
R782
R1772
R1757
C751
R1767
R761
R758
R776
C760
R780
C752
C753
R793
R794
R1764
R1763
R1758
R1774
R1765
R1775
R1766
R1756
R1770
R1771
R1351
R1752
R763
R762
R760
R770
X751
TP752
TP751
C770
C763
C759
C769
R791
R759
R766
R1753
Q755
D754
D760
C761
R764
R765
ZD751
R1754
Q751
R792
R1775
CN752
DG751
CN753
TIMER P.C.B
To REGULATOR PG851
CN753
1 2 3
CN756
S772 REPEAT
S778 REW
S787 LENGTH
S766 REC
S786 START
S764 CHANNEL UP
S765 CHANNEL DOWN
D751
D752
R775
R771
Only 135E
RV753
SLOW TRACKING
RV752
TRACKING
S781 PAUSE
S756 CLEAR
S755 TORE
S754 SET(+)
S753 SET(−)
S752 PROGRAM
S751 CLOCK
S759 RESET
S762 AFC
S761 SKIP
S760 PRESET
S757 VPS
S782 F.ADV
R756
BZ799
S799
OFF ON
PG799
BUZZER UNIT
BUZZER P.C.B
IN
E
D
C
B
A
1 2 3 4 5 6 7 8

▨ : Soldered side ▨ : Parts side ● : Through-hole

※ VOLTAGE : STOP MODE.

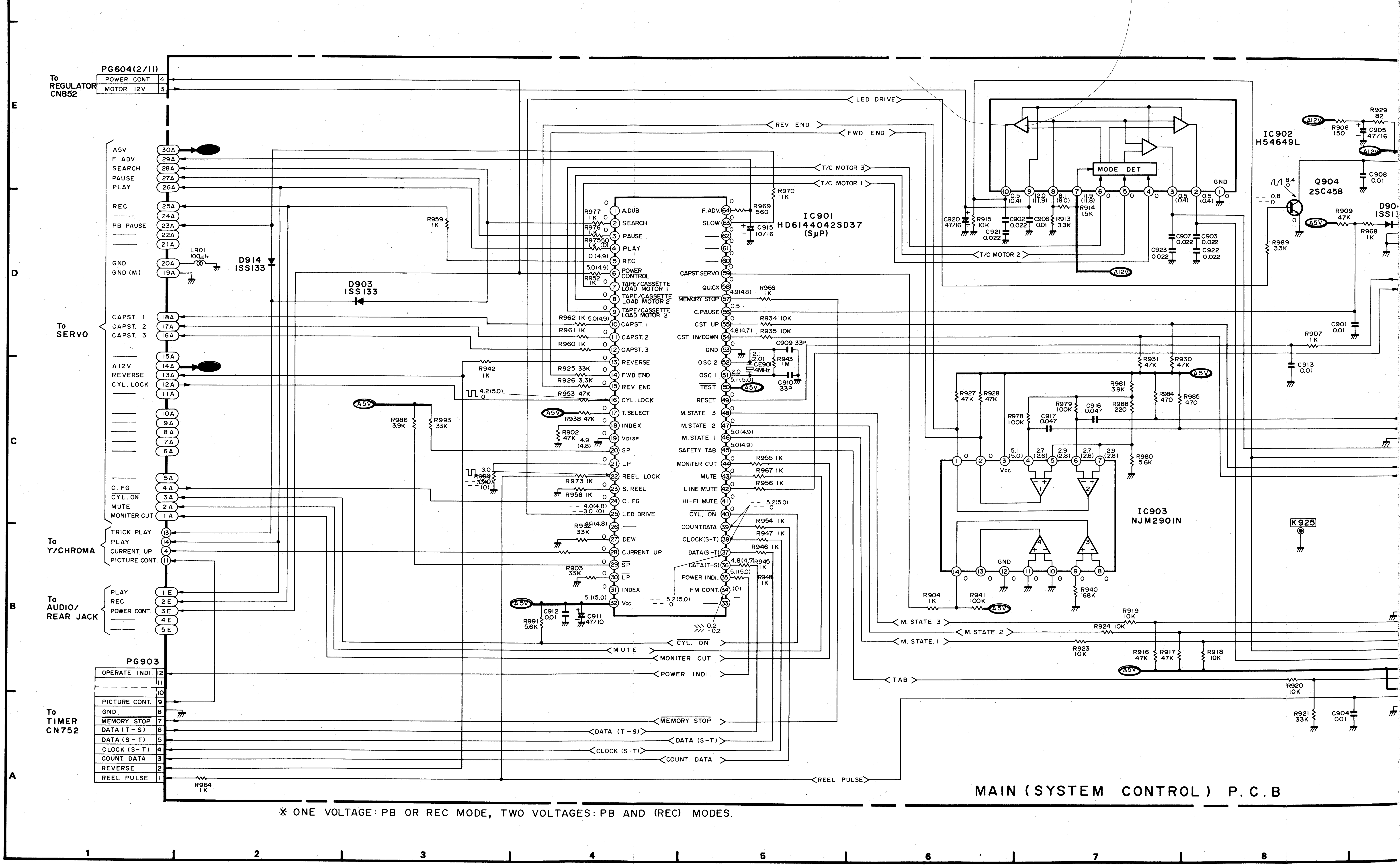


IC751
5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 0 – 0 5.0 5.0 4.2 4.5 4.1
33 35 37 39 41 43 45 47 49 51 53 55 57 59 61 63 64
5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 5.0 – 5.0 5.0 4.9 4.6 4.5 4.5
5.0 5.0 0 5.0 5.0 5.0 5.0 0 2.4 0 5.0 5.0 5.0 5.0 4.6 4.6
32 31 29 27 25 23 21 19 17 15 13 11 9 7 5 3 1
5.0 0 5.0 5.0 5.0 0 0 5.0 -26 5.0 5.0 5.0 5.0 4.6 4.6 4.6
※ VOLTAGE : STOP MODE.
CN752
1 2 3 4 5 6 7 8 9 10 11 12 13 14
To MAIN PG903
4.19MHz CRYSTAL
TP752
TP751
C770
C769
C763
C759
Q755
D754
C761
D760
R764
R765
Q751
ZD751
R1754
R1775
R792
R791
R766
R1753
R759
R1751
R1752
R763
R762
R760
R770
X751
IC751
R1765
R1756
R1771
R1770
R1766
R1775
DG751
CN752
TIMER P.C.B
To REGULATOR PG851
CN753
1 2 3
OPERATION SWITCH P.C.B
CN756
S772 REPEAT
QR758
S771 OPERATE
R1793
For 135E
R1792
R1791
For 125E
D764 OPERATE
S778 REW
RV751
PICTURE CONTROL
S773 EJECT
594850
INPUT KEY P.C.B
D751
D752
R775
R771
Only 135E
RV753
SLOW TRACKING
RV752
TRACKING
S756 CLEAR
S755 TORE
S754 SET(+)
S753 SET(−)
S752 PROGRAM
S751 CLOCK
S759 RESET
S762 AFC
S761 SKIP
S760 PRESET
S757 VPS
S781 PAUSE
S776 STOP
S775 PLAY
R774
R773
C757
C754
C755
Q754
C756
D753
R772
CN754
S782 F.ADV
R756
S777 SLOW
Only 135E
R753
R754
R755
S780 F.F
R752
R751
R757

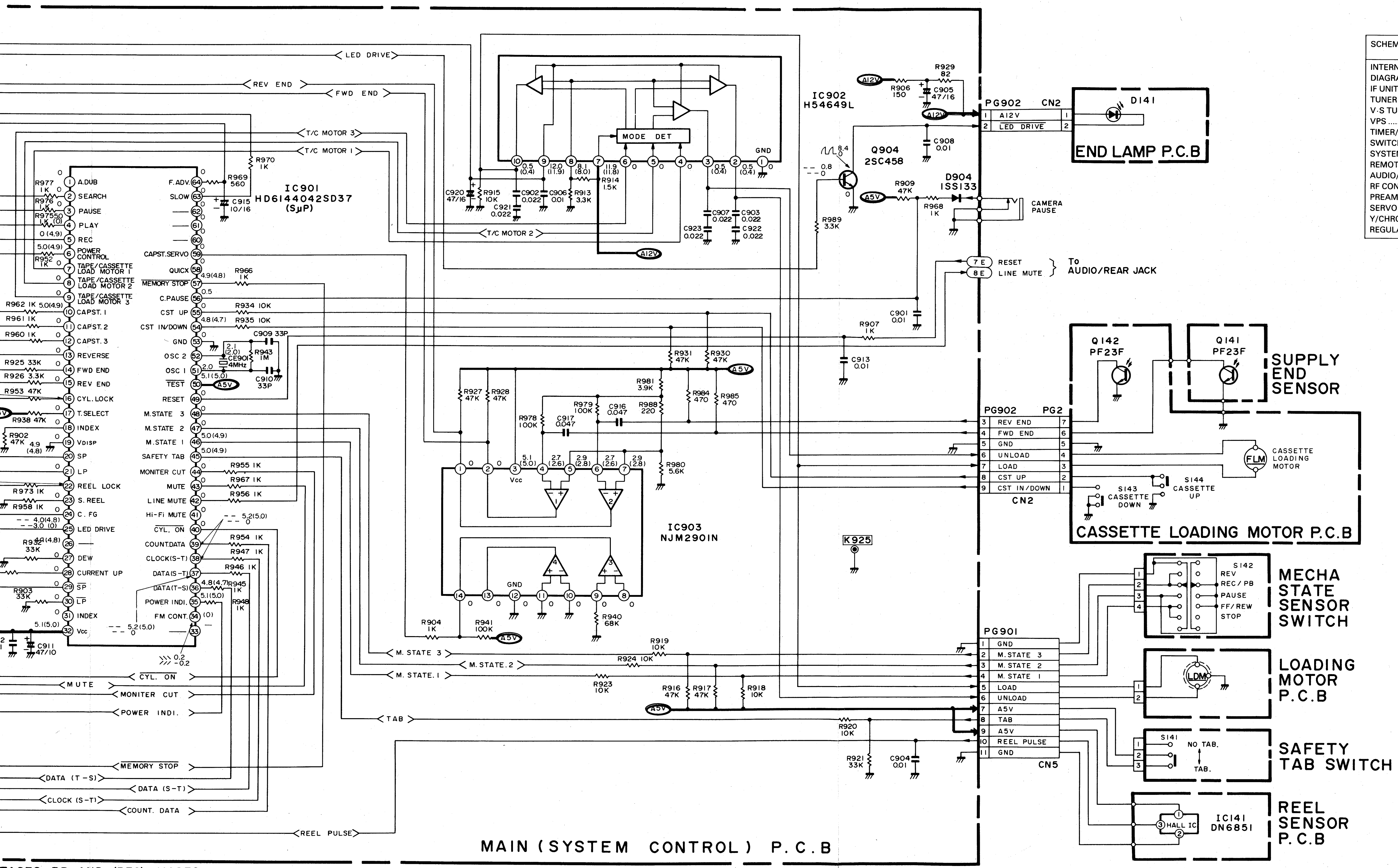
▨ : Soldered side ▨ : Parts side ● : Through-hole

※ VOLTAGE : STOP MODE.

SYSTEM CONTROL (SYSTEMREGELUNG) VT-125E (VPS)


PG604(2/11)
To REGULATOR CN852
POWER CONT. 4
MOTOR 12V 3
A5V 30A
F. ADV 29A
SEARCH 28A
PAUSE 27A
PLAY 26A
REC 25A
PB PAUSE 23A
GND 20A
GND (M) 19A
To SERVO
CAPST. 1 18A
CAPST. 2 17A
CAPST. 3 16A
A12V 14A
REVERSE 13A
CYL. LOCK 12A
C. FG 4A
CYL. ON 3A
MUTE 2A
MONITER CUT 1A
To Y/CHROMA
TRICK PLAY 13
PLAY 14
CURRENT UP 4
PICTURE CONT. 11
To AUDIO/ REAR JACK
PLAY 1E
REC 2E
POWER CONT. 3E
PG903
To TIMER CN752
OPERATE INDI. 12
PICTURE CONT. 9
GND 8
MEMORY STOP 7
DATA (T-S) 6
DATA (S-T) 5
CLOCK (S-T) 4
COUNT. DATA 3
REVERSE 2
REEL PULSE 1
L901 100μH
D914 1SS133
D903 1SS133
R959 1K
R942 1K
R986 3.9K
R993 33K
R964 1K
IC901 HD6144042SD37 (SμP)
1 A.DUB
2 SEARCH
3 PAUSE
4 PLAY
5 REC
6 POWER CONTROL
7 TAPE/CASSETTE LOAD MOTOR 1
8 TAPE/CASSETTE LOAD MOTOR 2
9 TAPE/CASSETTE LOAD MOTOR 3
10 CAPST. 1
11 CAPST. 2
12 CAPST. 3
13 REVERSE
14 FWD END
15 REV END
16 CYL. LOCK
17 T. SELECT
18 INDEX
19 VDISP
20 SP
21 LP
22 REEL LOCK
23 S. REEL
24 C. FG
25 LED DRIVE
26
27 DEW
28 CURRENT UP
29 SP
30 LP
31 INDEX
32 Vcc
64 F.ADV
63 SLOW
59 CAPST. SERVO
58 QUICK
57 MEMORY STOP
56 C.PAUSE
55 CST UP
54 CST IN/DOWN
53 GND
52 OSC 2
51 OSC 1
50 TEST
49 RESET
48 M.STATE 3
47 M.STATE 2
46 M.STATE 1
45 SAFETY TAB
44 MONITER CUT
43 MUTE
42 LINE MUTE
41 Hi-Fi MUTE
40 CYL. ON
39 COUNTDATA
38 CLOCK(S-T)
37 DATA(S-T)
36 DATA(T-S)
35 POWER INDI.
34 FM CONT.
33
R977 1K
R976 1K
R975 50 1K
R952 1K
R962 1K
R961 1K
R960 1K
R925 33K
R926 3.3K
R953 47K
R938 47K
R902 47K
R973 1K
R958 1K
R932 33K
R903 33K
R969 560
R970 1K
C915 10/16
R966 1K
R934 10K
R935 10K
C909 33P
CE901 4MHz
R943 1M
C910 33P
R955 1K
R967 1K
R956 1K
R954 1K
R947 1K
R946 1K
R945 1K
R948 1K
C912 0.01
C911 47/10
R991 5.6K
A5V
A12V
LED DRIVE
REV END
FWD END
T/C MOTOR 3
T/C MOTOR 1
T/C MOTOR 2
M. STATE 3
M. STATE. 2
M. STATE. 1
CYL. ON
MUTE
MONITER CUT
POWER INDI.
TAB
MEMORY STOP
DATA (T-S)
DATA (S-T)
CLOCK (S-T)
COUNT. DATA
REEL PULSE
IC902 H54649L
MODE DET
GND
C920 47/16
R915 10K
C921 0.022
C902 0.022
C906 0.01
R913 3.3K
R914 1.5K
C907 0.022
C903 0.022
C923 0.022
C922 0.022
Q904 2SC458
R929 82
R906 150
C905 47/16
C908 0.01
R909 47K
R968 1K
R989 3.3K
C901 0.01
R907 1K
C913 0.01
IC903 NJM2901N
R931 47K
R930 47K
R927 47K
R928 47K
R981 3.9K
R984 470
R985 470
R978 100K
R979 100K
C917 0.047
C916 0.047
R988 220
R980 5.6K
R940 68K
R904 1K
R941 100K
R919 10K
R924 10K
R923 10K
R916 47K
R917 47K
R918 10K
R920 10K
R921 33K
C904 0.01
K925
MAIN (SYSTEM CONTROL) P.C.B
A
B
C
D
E
1
2
3
4
5
6
7
8

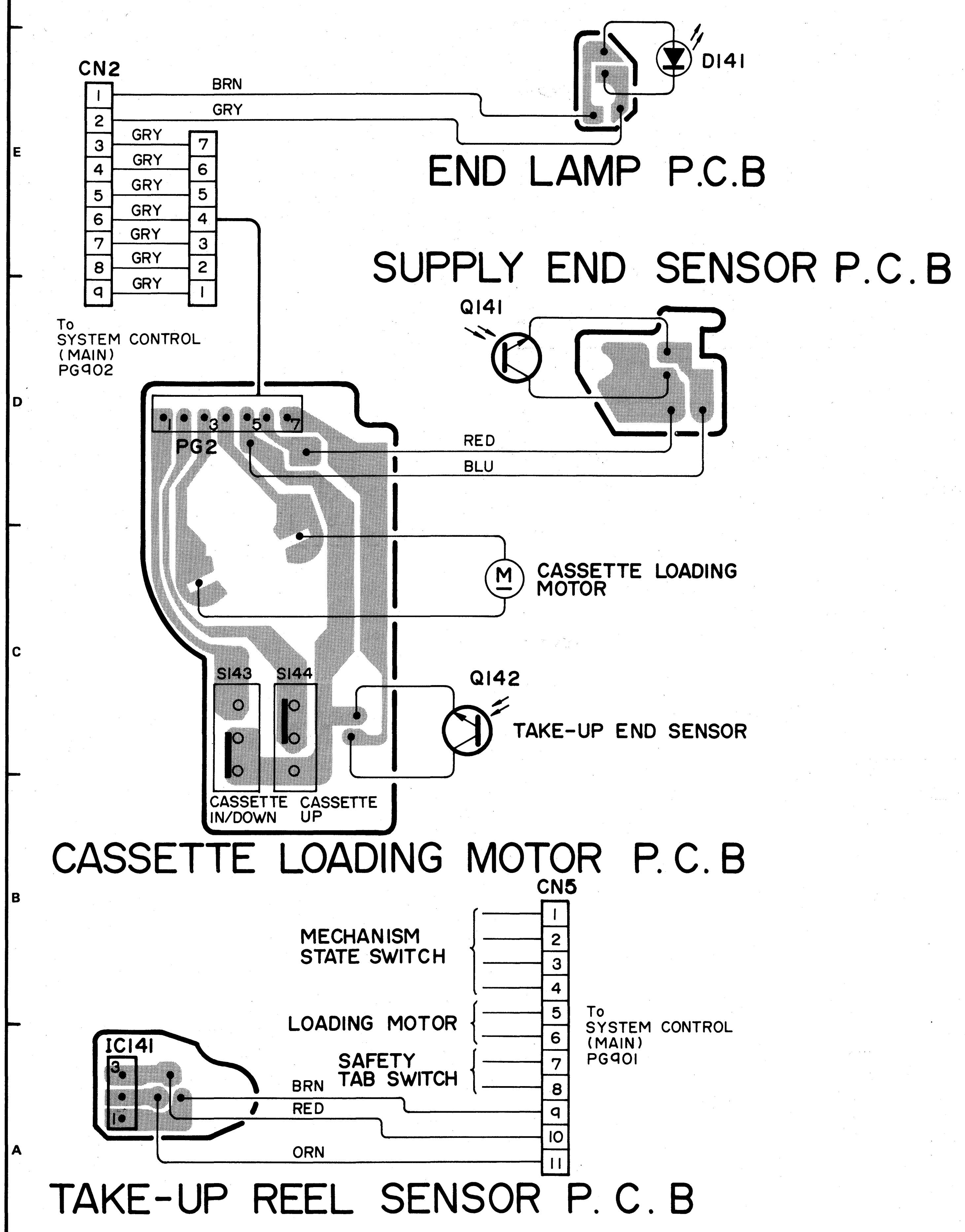
※ ONE VOLTAGE: PB OR REC MODE, TWO VOLTAGES: PB AND (REC) MODES.


MAIN (SYSTEM CONTROL) P.C.B
IC901
HD6144042SD37
(SμP)
IC902
H54649L
IC903
NJM2901N
Q904
2SC458
D904
1SS133
MODE DET
LED DRIVE
REV END
FWD END
T/C MOTOR 3
T/C MOTOR 1
T/C MOTOR 2
A.DUB
SEARCH
PAUSE
PLAY
REC
POWER CONTROL
TAPE/CASSETTE LOAD MOTOR 1
TAPE/CASSETTE LOAD MOTOR 2
TAPE/CASSETTE LOAD MOTOR 3
CAPST. 1
CAPST. 2
CAPST. 3
REVERSE
FWD END
REV END
CYL. LOCK
T. SELECT
INDEX
VDISP
SP
LP
REEL LOCK
S. REEL
C. FG
LED DRIVE
DEW
CURRENT UP
SP
LP
INDEX
Vcc
F.ADV
SLOW
CAPST. SERVO
QUICK
MEMORY STOP
C.PAUSE
CST UP
CST IN/DOWN
GND
OSC 2
OSC 1
TEST
RESET
M.STATE 3
M.STATE 2
M.STATE 1
SAFETY TAB
MONITER CUT
MUTE
LINE MUTE
Hi-Fi MUTE
CYL. ON
COUNTDATA
CLOCK(S-T)
DATA(S-T)
DATA(T-S)
POWER INDI.
FM CONT.
M. STATE 3
M. STATE 2
M. STATE 1
MUTE
CYL. ON
MONITER CUT
POWER INDI.
TAB
MEMORY STOP
DATA (T-S)
DATA (S-T)
CLOCK (S-T)
COUNT. DATA
REEL PULSE
CAMERA PAUSE
RESET
LINE MUTE
To AUDIO/REAR JACK
K925
GND
PG902
CN2
A12V
LED DRIVE
END LAMP P.C.B
D141
Q142
PF23F
Q141
PF23F
SUPPLY END SENSOR
PG902
PG2
REV END
FWD END
GND
UNLOAD
LOAD
CST UP
CST IN/DOWN
CN2
CASSETTE LOADING MOTOR
FLM
S143 CASSETTE DOWN
S144 CASSETTE UP
CASSETTE LOADING MOTOR P.C.B
S142
REV
REC/PB
PAUSE
FF/REW
STOP
MECHA STATE SENSOR SWITCH
PG901
GND
M.STATE 3
M.STATE 2
M.STATE 1
LOAD
UNLOAD
A5V
TAB
A5V
REEL PULSE
GND
CN5
LDM
LOADING MOTOR P.C.B
S141
NO TAB.
TAB.
SAFETY TAB SWITCH
IC141
DN6851
HALL IC
REEL SENSOR P.C.B
A12V
A5V

SCHEMATIC DIAGRAM	PAGE VT-125E/VT-135E
INTERNAL WIRING DIAGRAM	5-2/5-2
IF UNIT	5-4/5-4
TUNER UNIT	5-6/5-6
V·S TUNING	5-7/5-7
VPS	5-10/5-10
TIMER/OPERATION SWITCH	5-13/5-13
SYSTEM CONTROL	5-19/5-51
REMOTE CONTROL	5-23/5-55
AUDIO/REAR JACK	5-25/5-57
RF CONVERTER	5-28/5-60
PREAMP	5-29/5-61
SERVO	5-38/5-70
Y/CHROMA	5-41/5-73
REGULATOR	5-50/5-82

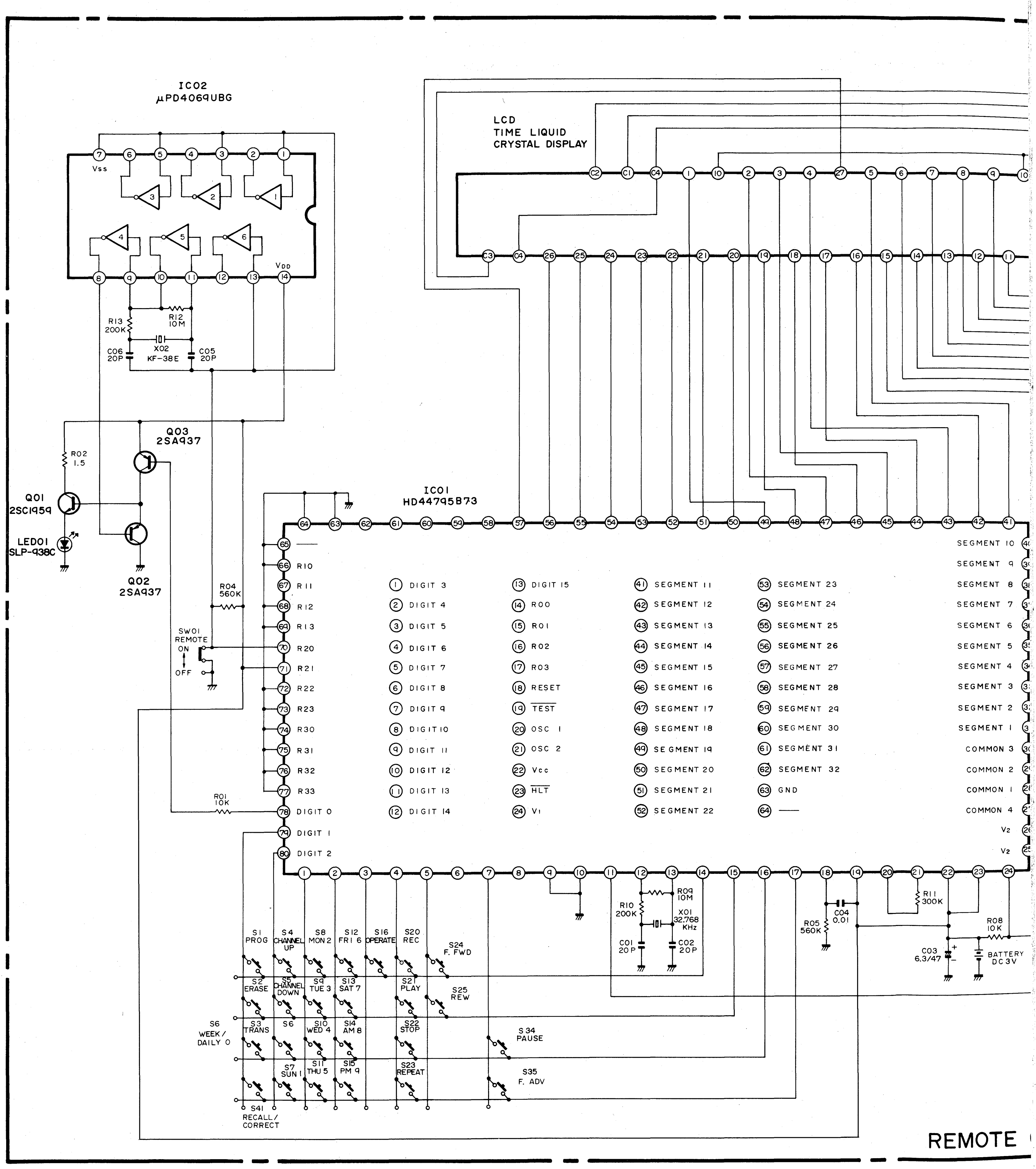
TAGES: PB AND (REC) MODES.

PERIPHERAL BOARD (PERIPHERIE-LEITERPLATTE)


CN2
BRN
GRY
To SYSTEM CONTROL (MAIN) PG902
D141
END LAMP P.C.B
SUPPLY END SENSOR P.C.B
Q141
PG2
RED
BLU
CASSETTE LOADING MOTOR
S143
S144
Q142
TAKE-UP END SENSOR
CASSETTE IN/DOWN
CASSETTE UP
CASSETTE LOADING MOTOR P.C.B
CN5
MECHANISM STATE SWITCH
LOADING MOTOR
SAFETY TAB SWITCH
To SYSTEM CONTROL (MAIN) PG901
IC141
BRN
RED
ORN
TAKE-UP REEL SENSOR P.C.B
E
D
C
B
A
1
2
3
4

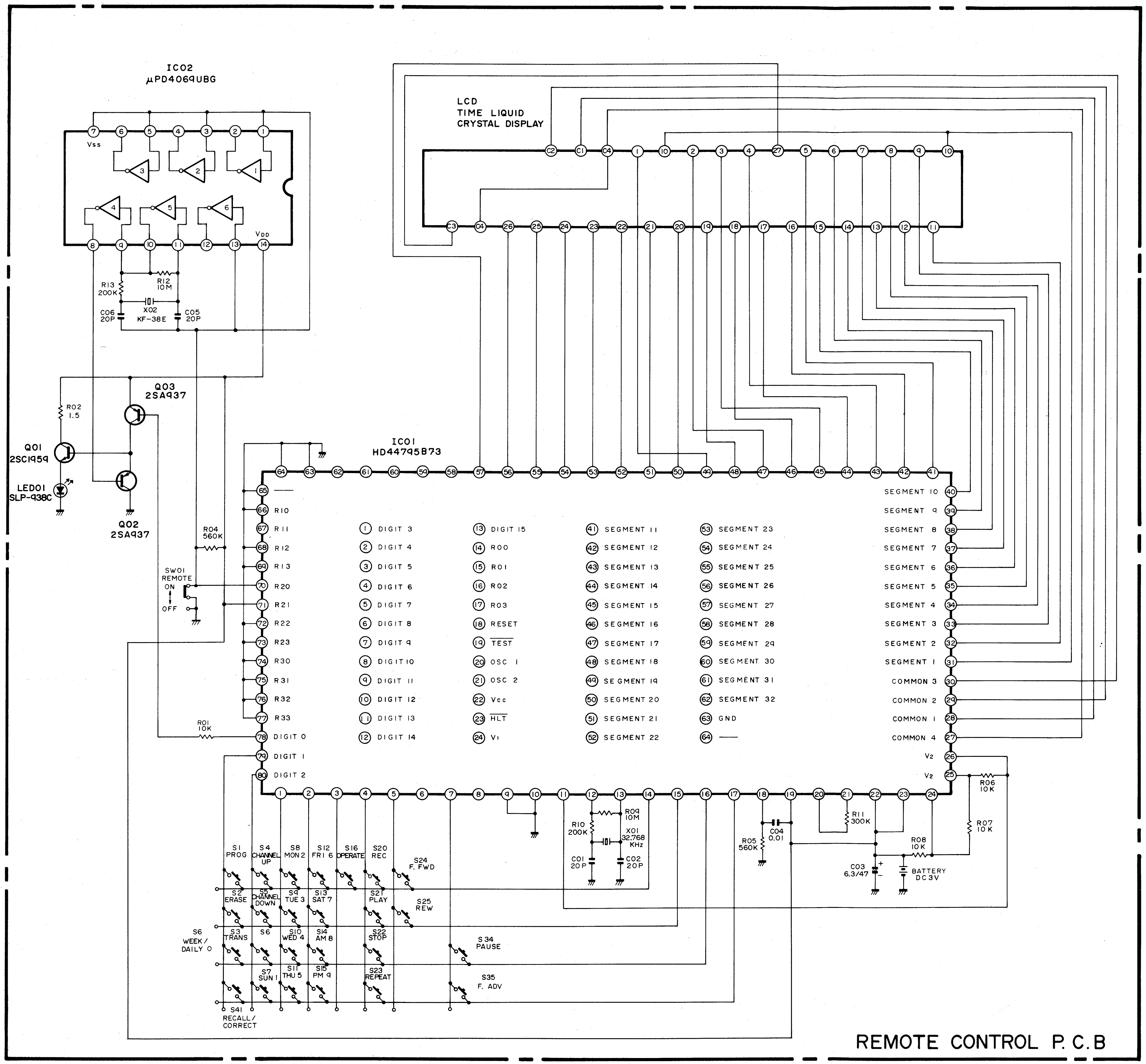
REMOTE CONTROL (FERNBEDIENUNG)

VT-125E (VPS)

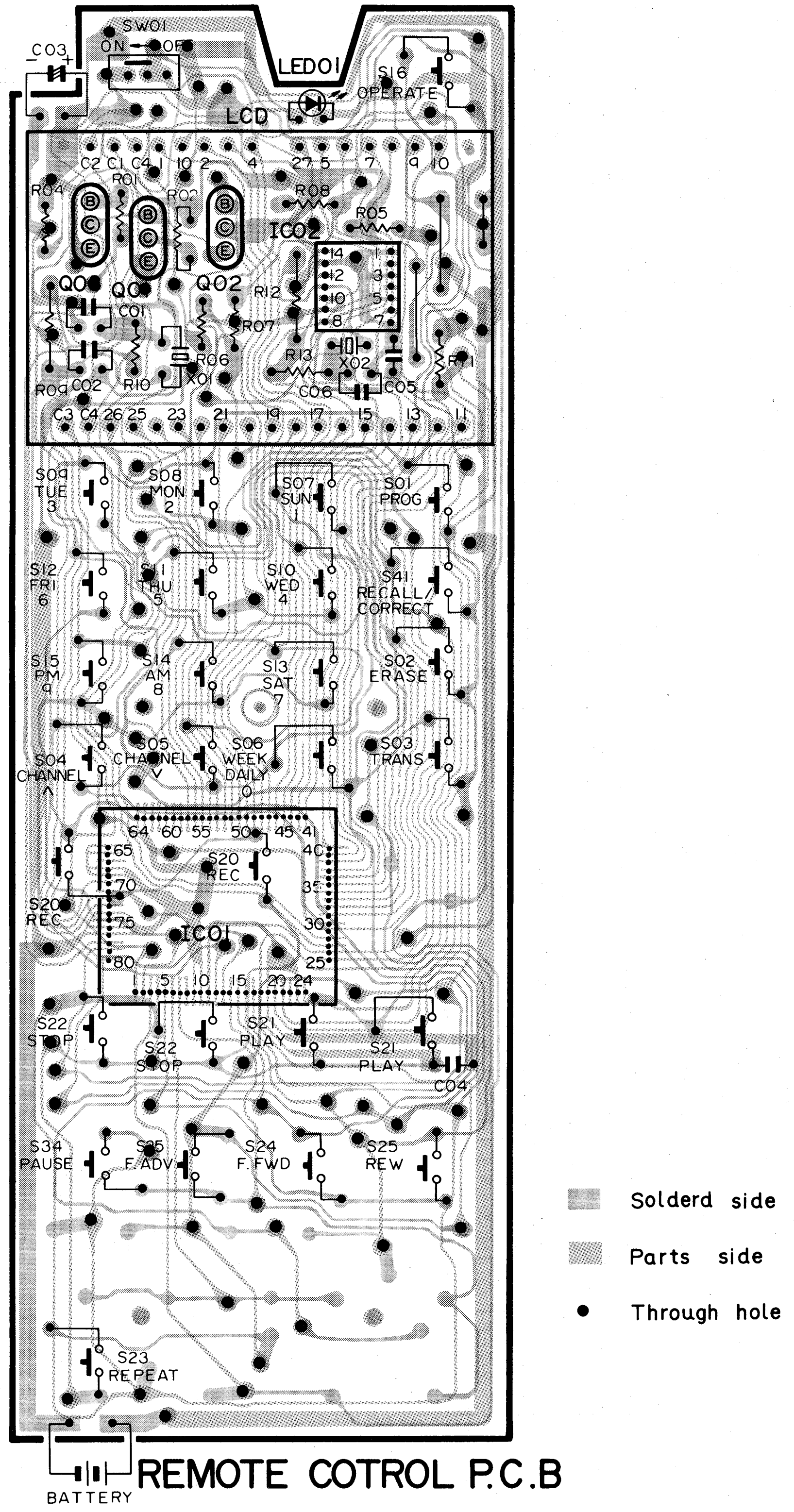

IC02
μPD4069UBG
Vss
VDD
R13 200K
R12 10M
X02 KF-38E
C06 20P
C05 20P
LCD TIME LIQUID CRYSTAL DISPLAY
R02 1.5
Q01 2SC1959
LED01 SLP-938C
Q03 2SA937
Q02 2SA937
R04 560K
SW01 REMOTE ON OFF
R01 10K
IC01 HD44795B73
R10
R11
R12
R13
R20
R21
R22
R23
R30
R31
R32
R33
DIGIT 0
DIGIT 1
DIGIT 2
① DIGIT 3
② DIGIT 4
③ DIGIT 5
④ DIGIT 6
⑤ DIGIT 7
⑥ DIGIT 8
⑦ DIGIT 9
⑧ DIGIT 10
⑨ DIGIT 11
⑩ DIGIT 12
⑪ DIGIT 13
⑫ DIGIT 14
⑬ DIGIT 15
⑭ R00
⑮ R01
⑯ R02
⑰ R03
⑱ RESET
⑲ TEST
⑳ OSC 1
㉑ OSC 2
㉒ Vcc
㉓ HLT
㉔ V1
㊶ SEGMENT 11
㊷ SEGMENT 12
㊸ SEGMENT 13
㊹ SEGMENT 14
㊺ SEGMENT 15
㊻ SEGMENT 16
㊼ SEGMENT 17
㊽ SEGMENT 18
㊾ SEGMENT 19
㊿ SEGMENT 20
(51) SEGMENT 21
(52) SEGMENT 22
(53) SEGMENT 23
(54) SEGMENT 24
(55) SEGMENT 25
(56) SEGMENT 26
(57) SEGMENT 27
(58) SEGMENT 28
(59) SEGMENT 29
(60) SEGMENT 30
(61) SEGMENT 31
(62) SEGMENT 32
(63) GND
(64) —
SEGMENT 10
SEGMENT 9
SEGMENT 8
SEGMENT 7
SEGMENT 6
SEGMENT 5
SEGMENT 4
SEGMENT 3
SEGMENT 2
SEGMENT 1
COMMON 3
COMMON 2
COMMON 1
COMMON 4
V2
V2
R09 10M
R10 200K
X01 32.768 KHz
C01 20P
C02 20P
R05 560K
C04 0.01
R11 300K
R08 10K
C03 6.3/47
BATTERY DC3V
S1 PROG
S4 CHANNEL UP
S8 MON 2
S12 FRI 6
S16 OPERATE
S20 REC
S24 F. FWD
S2 ERASE
S5 CHANNEL DOWN
S9 TUE 3
S13 SAT 7
S21 PLAY
S25 REW
S6 WEEK/DAILY 0
S3 TRANS
S6
S10 WED 4
S14 AM 8
S22 STOP
S34 PAUSE
S7 SUN 1
S11 THU 5
S15 PM 9
S23 REPEAT
S35 F. ADV
S41 RECALL/CORRECT
REMOTE
5
6
7
8

REMOTE CONTROL (FERNBEDIENUNG) VT-125E (VPS)

R P.C.B



IC02
µPD4069UBG
Vss
VDD
R13 200K
R12 10M
C06 20P
X02 KF-38E
C05 20P
R02 1.5
Q03 2SA937
Q01 2SC1959
LED01 SLP-938C
Q02 2SA937
R04 560K
SW01 REMOTE ON OFF
R01 10K
LCD
TIME LIQUID
CRYSTAL DISPLAY
IC01
HD44795B73
① DIGIT 3
② DIGIT 4
③ DIGIT 5
④ DIGIT 6
⑤ DIGIT 7
⑥ DIGIT 8
⑦ DIGIT 9
⑧ DIGIT 10
⑨ DIGIT 11
⑩ DIGIT 12
⑪ DIGIT 13
⑫ DIGIT 14
⑬ DIGIT 15
⑭ R00
⑮ R01
⑯ R02
⑰ R03
⑱ RESET
⑲ TEST
⑳ OSC 1
㉑ OSC 2
㉒ Vcc
㉓ HLT
㉔ V1
㊶ SEGMENT 11
㊷ SEGMENT 12
㊸ SEGMENT 13
㊹ SEGMENT 14
㊺ SEGMENT 15
㊻ SEGMENT 16
㊼ SEGMENT 17
㊽ SEGMENT 18
㊾ SEGMENT 19
㊿ SEGMENT 20
(51) SEGMENT 21
(52) SEGMENT 22
(53) SEGMENT 23
(54) SEGMENT 24
(55) SEGMENT 25
(56) SEGMENT 26
(57) SEGMENT 27
(58) SEGMENT 28
(59) SEGMENT 29
(60) SEGMENT 30
(61) SEGMENT 31
(62) SEGMENT 32
(63) GND
(64) —
(65) —
(66) R10
(67) R11
(68) R12
(69) R13
(70) R20
(71) R21
(72) R22
(73) R23
(74) R30
(75) R31
(76) R32
(77) R33
(78) DIGIT 0
(79) DIGIT 1
(80) DIGIT 2
SEGMENT 10 ㊵
SEGMENT 9 ㊴
SEGMENT 8 ㊳
SEGMENT 7 ㊲
SEGMENT 6 ㊱
SEGMENT 5 ㉟
SEGMENT 4 ㉞
SEGMENT 3 ㉝
SEGMENT 2 ㉜
SEGMENT 1 ㉛
COMMON 3 ㉚
COMMON 2 ㉙
COMMON 1 ㉘
COMMON 4 ㉗
V2 ㉖
V2 ㉕
R10 200K
R09 10M
X01 32.768 KHz
C01 20P
C02 20P
R05 560K
C04 0.01
R11 300K
C03 6.3/47
R08 10K
BATTERY DC3V
R06 10K
R07 10K
S1 PROG
S4 CHANNEL UP
S8 MON 2
S12 FRI 6
S16 OPERATE
S20 REC
S24 F. FWD
S2 ERASE
S5 CHANNEL DOWN
S9 TUE 3
S13 SAT 7
S21 PLAY
S25 REW
S6 WEEK / DAILY 0
S3 TRANS
S6
S10 WED 4
S14 AM 8
S22 STOP
S 34 PAUSE
S7 SUN 1
S11 THU 5
S15 PM 9
S23 REPEAT
S35 F. ADV
S41 RECALL / CORRECT
REMOTE CONTROL P. C. B

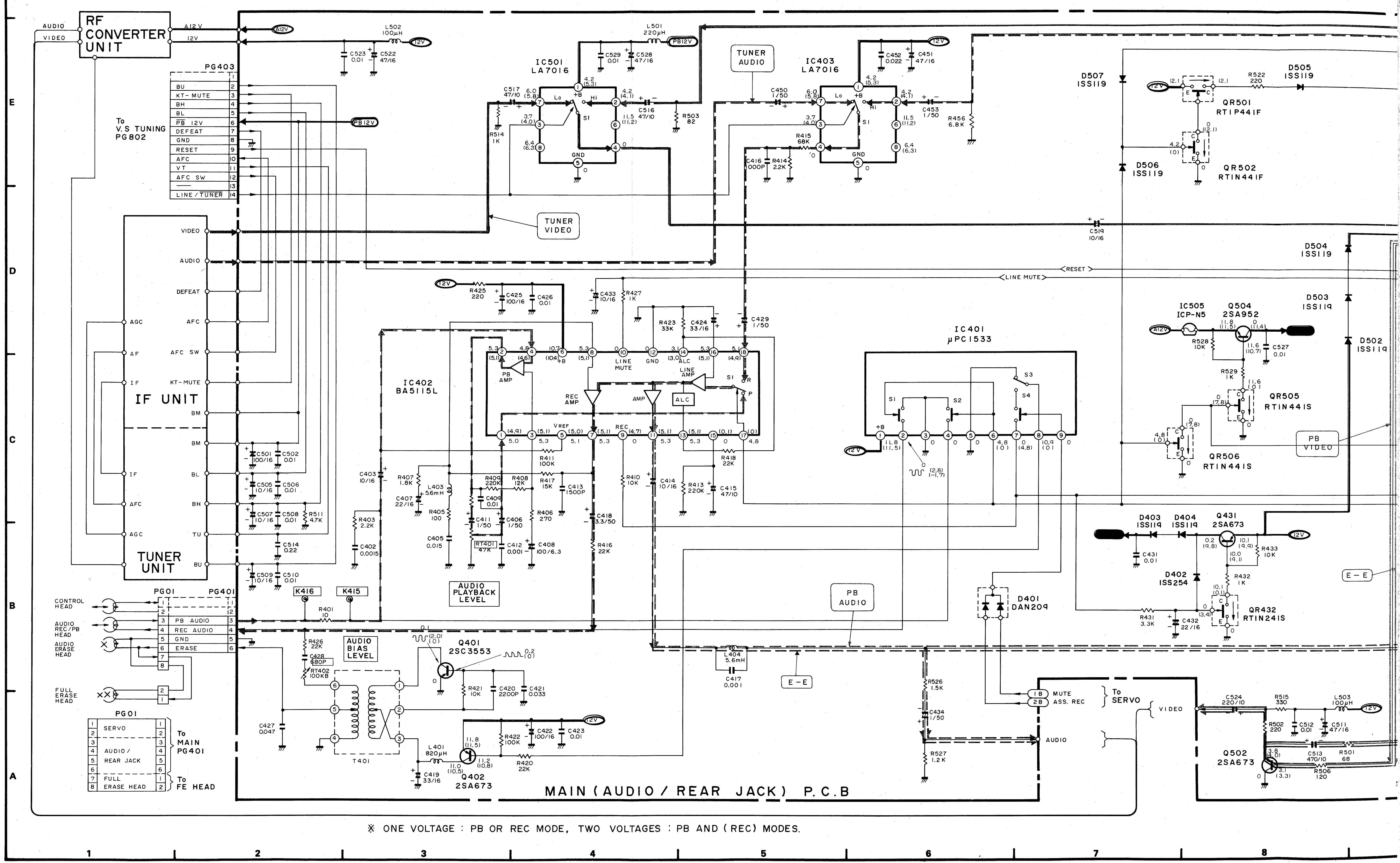


SW01
ON OFF
C03
LED01
S16 OPERATE
LCD
C2 C1 C4 1 10 2 4 27 5 7 9 10
R04 R01 R02 R08 R05
IC02
Q01 Q03 Q02
R12 C01 R07 R06 R13 X02 R11
R09 C02 R10 X01 C06 C05
C3 C4 26 25 23 21 19 17 15 13 11
S09 TUE 3
S08 MON 2
S07 SUN 1
S01 PROG
S12 FRI 6
S11 THU 5
S10 WED 4
S41 RECALL / CORRECT
S15 PM 9
S14 AM 8
S13 SAT 7
S02 ERASE
S04 CHANNEL
S05 CHANNEL
S06 WEEK DAILY 0
S03 TRANS
64 60 55 50 45 41
65 40
70 35
75 30
80 25
1 5 10 15 20 24
S20 REC
IC01
S22 STOP
S21 PLAY
C04
S34 PAUSE
S35 F. ADV
S24 F. FWD
S25 REW
S23 REPEAT
BATTERY
Solderd side
Parts side
● Through hole

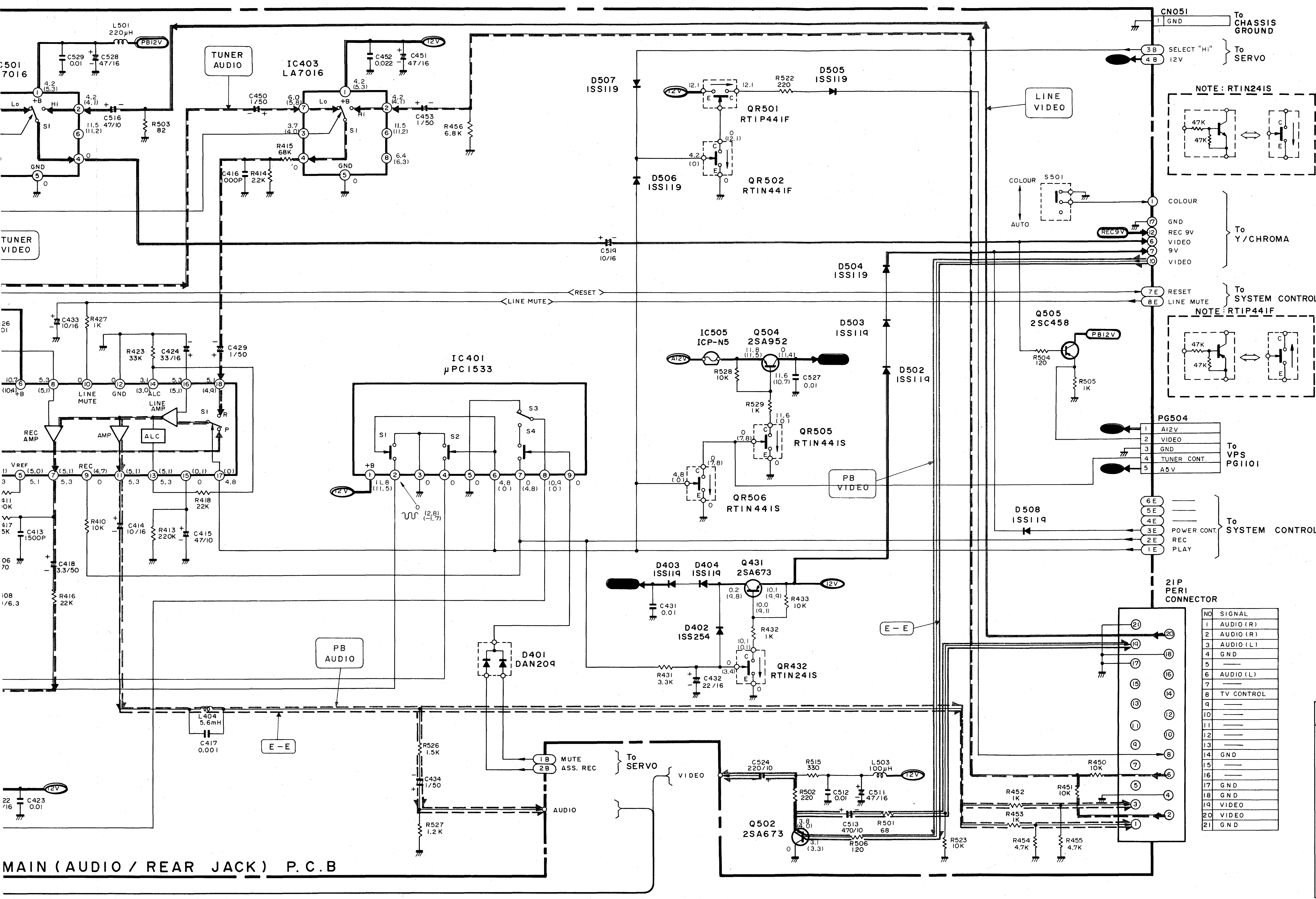
REMOTE COTROL P.C.B

AUDIO/REAR JACK (AUDIO-BUCHSE)

VT-125E (VPS)


RF CONVERTER UNIT
AUDIO
VIDEO
A12V
12V
PG403
BU
KT-MUTE
BH
BL
PB 12V
DEFEAT
GND
RESET
AFC
VT
AFC SW
LINE / TUNER
To V.S TUNING PG802
L502 100μH
C523 0.01
C522 47/16
L501 220μH
PB12V
C529 0.01
C528 47/16
IC501 LA7016
C517 47/10
R514 1K
C516 47/10
R503 82
TUNER AUDIO
IC403 LA7016
C450 1/50
C452 0.022
C451 47/16
C453 1/50
R456 6.8K
R415 68K
C416 1000P
R414 2.2K
Lo
Hi
+B
S1
GND
TUNER VIDEO
C519 10/16
D507 ISS119
D505 ISS119
R522 220
QR501 RT1P441F
D506 ISS119
QR502 RT1N441F
D504 ISS119
D503 ISS119
D502 ISS119
RESET
LINE MUTE
IF UNIT
VIDEO
AUDIO
DEFEAT
AGC
AFC
AF
AFC SW
IF
KT-MUTE
BM
BL
BH
TU
BU
TUNER UNIT
C501 100/16
C502 0.01
C505 10/16
C506 0.01
C507 10/16
C508 0.01
R511 4.7K
C514 0.22
C509 10/16
C510 0.01
R425 220
C425 100/16
C426 0.01
C433 10/16
R427 1K
R423 33K
C424 33/16
C429 1/50
IC402 BA5115L
PB AMP
REC AMP
AMP
LINE AMP
ALC
LINE MUTE
VREF
REC
S1
R
P
C403 10/16
R407 1.8K
C407 22/16
L403 5.6mH
R405 100
C405 0.015
R409 220K
R408 12K
C409 0.01
C411 1/50
C406 1/50
RT401 47K
C412 0.001
R417 15K
C413 1500P
R406 270
C408 100/6.3
R411 100K
C418 3.3/50
R416 22K
R410 10K
C414 10/16
R413 220K
C415 47/10
R418 22K
R403 2.2K
C402 0.0015
AUDIO PLAYBACK LEVEL
K416
K415
R401 10
IC401 μPC1533
S1
S2
S3
S4
IC505 ICP-N5
Q504 2SA952
R528 10K
C527 0.01
R529 1K
QR505 RTN441S
QR506 RTN441S
PB VIDEO
D403 ISS119
D404 ISS119
Q431 2SA673
C431 0.01
R433 10K
D402 ISS254
R432 1K
QR432 RTN241S
R431 3.3K
C432 22/16
E-E
PB AUDIO
D401 DAN209
PG01
PG401
CONTROL HEAD
AUDIO REC/PB HEAD
AUDIO ERASE HEAD
FULL ERASE HEAD
PB AUDIO
REC AUDIO
GND
ERASE
R426 22K
C428 680P
RT402 100KB
AUDIO BIAS LEVEL
Q401 2SC3553
R421 10K
C420 2200P
C421 0.033
C427 0.047
T401
L401 820μH
C419 33/16
Q402 2SA673
R422 100K
C422 100/16
C423 0.01
R420 22K
L404 5.6mH
C417 0.001
R526 1.5K
C434 1/50
R527 1.2K
1B MUTE
2B ASS. REC
To SERVO
AUDIO
VIDEO
C524 220/10
R515 330
L503 100μH
R502 220
C512 0.01
C511 47/16
C513 470/10
R501 68
Q502 2SA673
R506 120
PG01
SERVO
To MAIN PG401
AUDIO / REAR JACK
FULL ERASE HEAD
To FE HEAD
MAIN (AUDIO / REAR JACK) P.C.B
E
D
C
B
A
1
2
3
4
5
6
7
8

※ ONE VOLTAGE : PB OR REC MODE, TWO VOLTAGES : PB AND (REC) MODES.


CN051
GND
To CHASSIS GROUND
SELECT "Hi"
12V
To SERVO
NOTE : RTIN241S
47K
47K
C
E
L501 220μH
PB12V
C529 0.01
C528 47/16
C501
7016
TUNER AUDIO
IC403 LA7016
C452 0.022
C451 47/16
12V
D507 1SS119
R522 220
D505 1SS119
QR501 RT1P441F
LINE VIDEO
C516 47/10
R503 82
C450 1/50
C453 1/50
R456 6.8K
R415 68K
C416 000P
R414 2.2K
GND
D506 1SS119
QR502 RTIN441F
COLOUR
S501
AUTO
COLOUR
GND
REC 9V
VIDEO
9V
VIDEO
To Y/CHROMA
REC9V
TUNER VIDEO
C519 10/16
D504 1SS119
RESET
LINE MUTE
To SYSTEM CONTROL
NOTE : RT1P441F
Q505 2SC458
PB12V
R504 120
R505 1K
C433 10/16
R427 1K
R423 33K
C424 33/16
C429 1/50
IC401 μPC1533
IC505 ICP-N5
Q504 2SA952
D503 1SS119
D502 1SS119
A12V
R528 10K
C527 0.01
R529 1K
QR505 RTIN441S
LINE MUTE
GND
ALC
LINE AMP
REC AMP
AMP
ALC
S1
S2
S3
S4
VREF
REC
R418 22K
R410 10K
C414 10/16
R413 220K
C415 47/10
C413 1500P
C418 3.3/50
R416 22K
PB VIDEO
QR506 RTIN441S
PG504
A12V
VIDEO
GND
TUNER CONT.
A5V
To VPS PG1101
D508 1SS119
POWER CONT.
REC
PLAY
To SYSTEM CONTROL
D403 1SS119
D404 1SS119
Q431 2SA673
12V
R433 10K
C431 0.01
D402 1SS254
R432 1K
QR432 RTIN241S
R431 3.3K
C432 22/16
E-E
21P PERI CONNECTOR
PB AUDIO
D401 DAN209
L404 5.6mH
C417 0.001
E-E
R526 1.5K
C434 1/50
R527 1.2K
MUTE
ASS. REC
To SERVO
AUDIO
VIDEO
C524 220/10
R515 330
L503 100μH
12V
R502 220
C512 0.01
C511 47/16
C513 470/10
R501 68
R506 120
Q502 2SA673
R523 10K
R450 10K
R452 1K
R451 10K
R453 1K
R454 4.7K
R455 4.7K
C423 0.01
12V
MAIN (AUDIO / REAR JACK) P.C.B

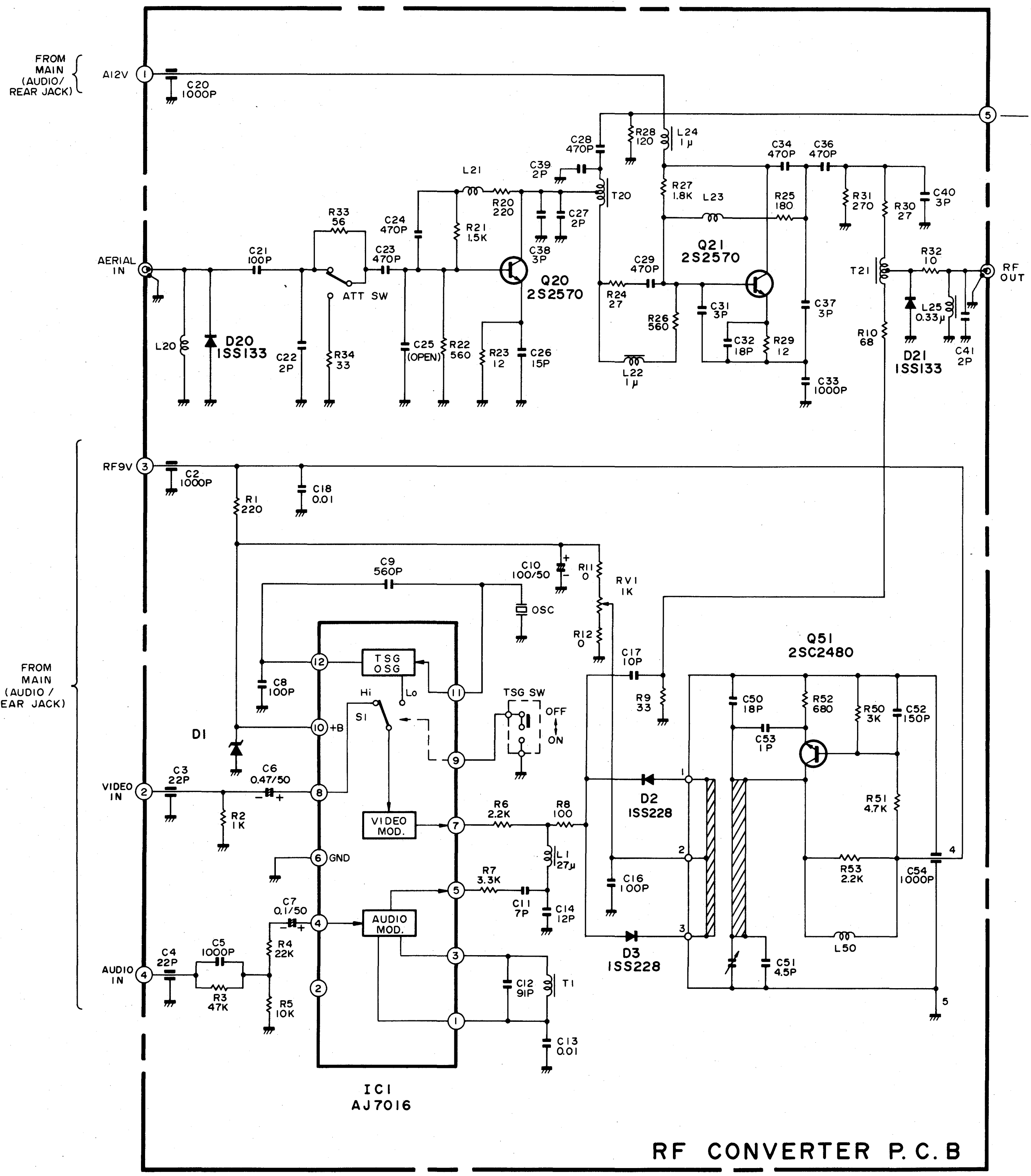
NO	SIGNAL
1	AUDIO (R)
2	AUDIO (R)
3	AUDIO (L)
4	GND
5	—
6	AUDIO (L)
7	—
8	TV CONTROL
9	—
10	—
11	—
12	—
13	—
14	GND
15	—
16	—
17	GND
18	GND
19	VIDEO
20	VIDEO
21	GND

ODE, TWO VOLTAGES : PB AND (REC) MODES.

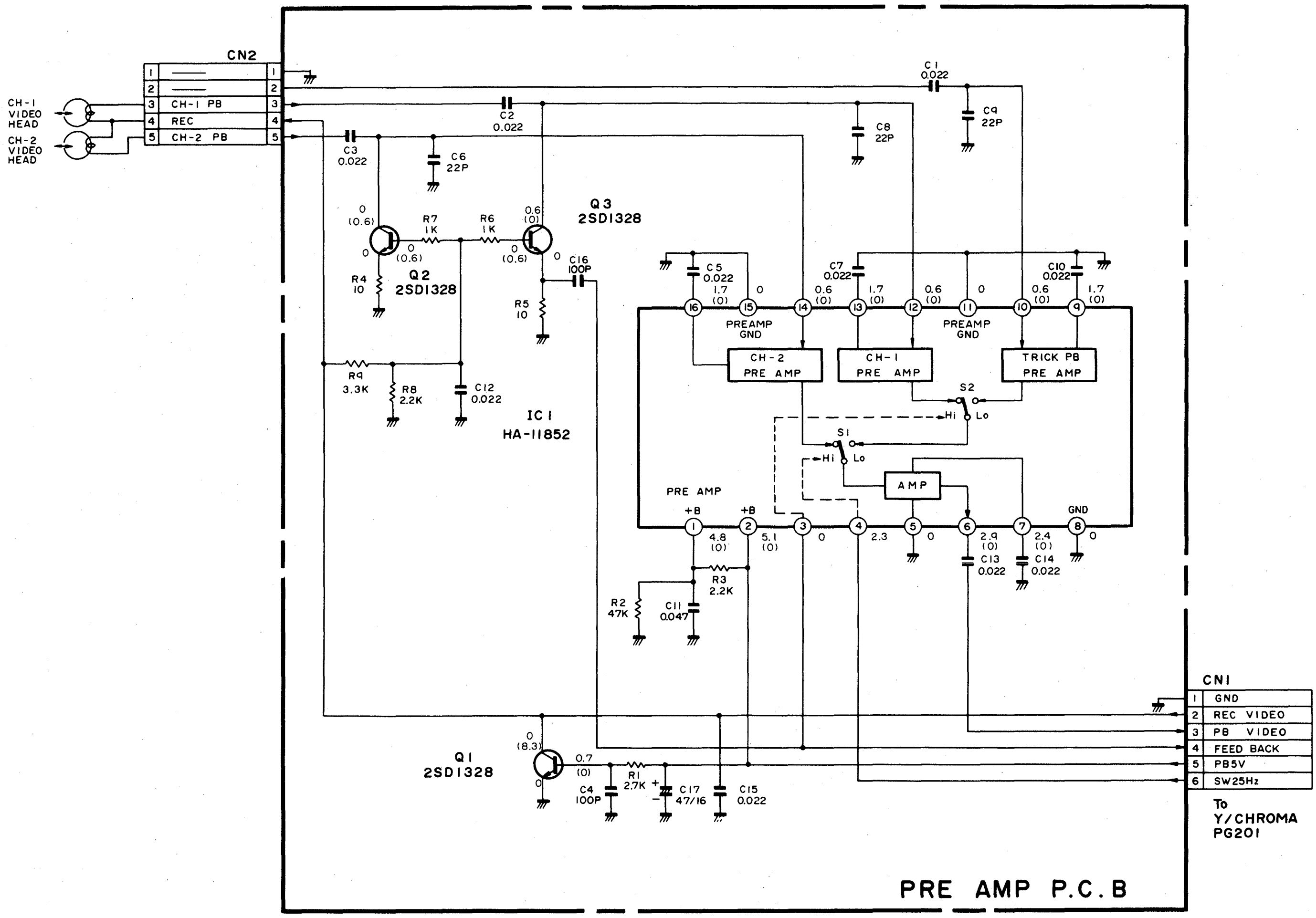
SCHEMATIC DIAGRAM	PAGE VT-125E/VT-135E
INTERNAL WIRING DIAGRAM	5-2/5-2
IF UNIT	5-4/5-4
TUNER UNIT	5-6/5-6
V-S TUNING	5-7/5-7
VPS	5-10/5-10
TIMER/OPERATION SWITCH	5-13/5-13
SYSTEM CONTROL	5-19/5-51
REMOTE CONTROL	5-23/5-55
AUDIO/REAR JACK	5-25/5-57
RF CONVERTER	5-28/5-60
PREAMP	5-29/5-61
SERVO	5-38/5-70
Y/CHROMA	5-41/5-73
REGULATOR	5-50/5-82

4 5 6 7 8 9 10 11

RF CONVERTER (HF-KONVERTER)


FROM MAIN (AUDIO/ REAR JACK)
A12V
C20 1000P
AERIAL IN
L20
D20 1SS133
C21 100P
C22 2P
R33 56
ATT SW
R34 33
C24 470P
C23 470P
C25 (OPEN)
R22 560
L21
R21 1.5K
R20 220
C39 2P
C38 3P
C27 2P
Q20 2S2570
R23 12
C26 15P
C28 470P
R28 120
L24 1μ
T20
R27 1.8K
L23
C29 470P
R24 27
R26 560
L22 1μ
Q21 2S2570
C31 3P
C32 18P
R29 12
R25 180
C34 470P
C36 470P
C37 3P
C33 1000P
R31 270
R30 27
C40 3P
T21
R32 10
RF OUT
L25 0.33μ
D21 1SS133
C41 2P
R10 68
RF9V
C2 1000P
R1 220
C18 0.01
FROM MAIN (AUDIO / REAR JACK)
C9 560P
C10 100/50
R11 0
RV1 1K
R12 0
OSC
C8 100P
TSG OSG
Hi
Lo
S1
TSG SW
OFF
ON
+B
D1
VIDEO IN
C3 22P
C6 0.47/50
R2 1K
VIDEO MOD.
R6 2.2K
R8 100
L1 27μ
GND
R7 3.3K
C11 7P
C14 12P
AUDIO IN
C4 22P
C5 1000P
R3 47K
C7 0.1/50
R4 22K
R5 10K
AUDIO MOD.
C12 91P
T1
C13 0.01
IC1 AJ7016
C17 10P
R9 33
D2 1SS228
C16 100P
D3 1SS228
Q51 2SC2480
C50 18P
C53 1P
R52 680
R50 3K
C52 150P
R51 4.7K
R53 2.2K
C54 1000P
L50
C51 4.5P
RF CONVERTER P. C. B

PREAMP (VORVERSTÄRKER)

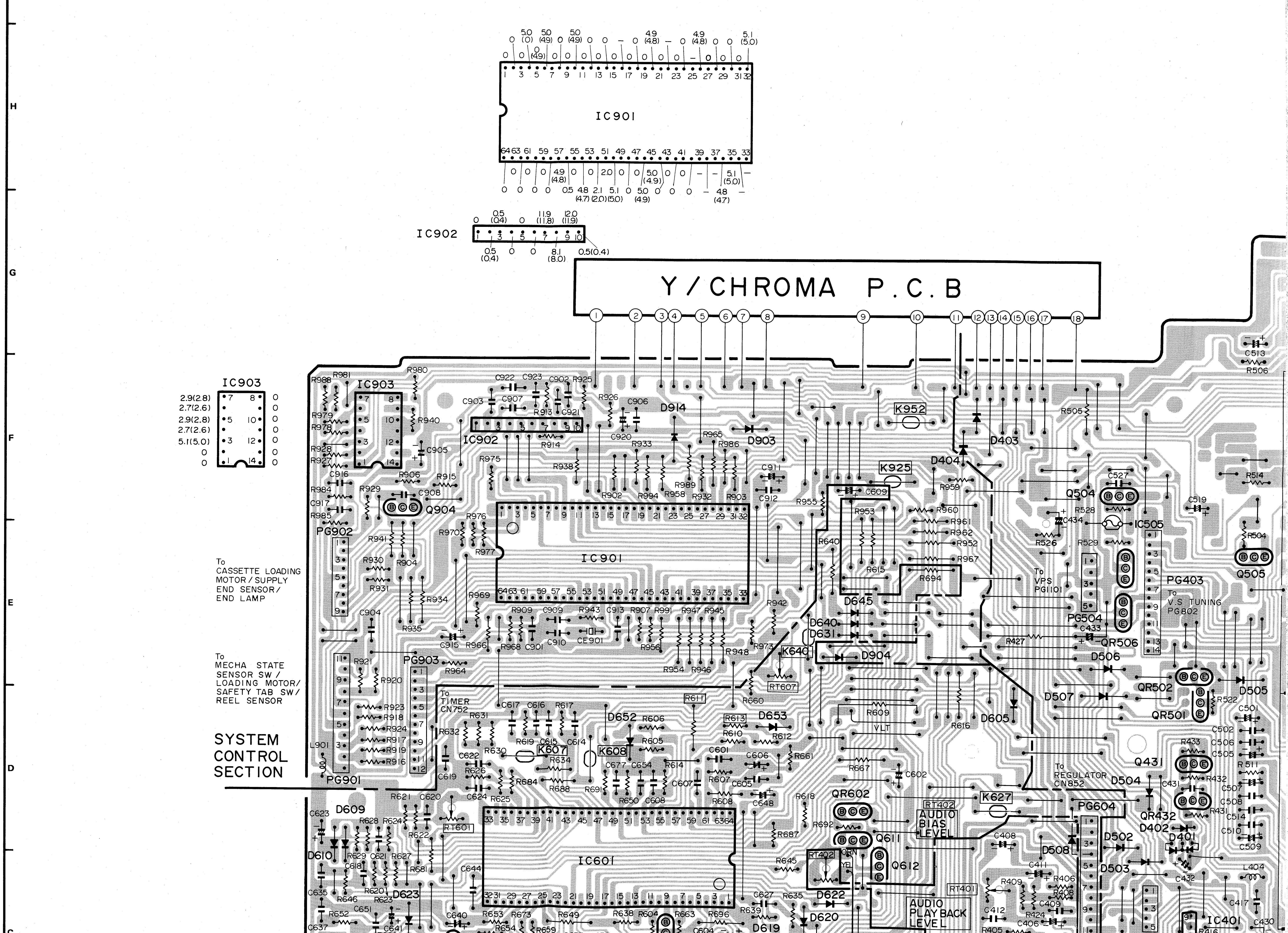

CN2
CH-1 VIDEO HEAD
CH-2 VIDEO HEAD
1
2
3 CH-1 PB
4 REC
5 CH-2 PB
C1 0.022
C2 0.022
C3 0.022
C6 22P
C8 22P
C9 22P
Q3 2SD1328
Q2 2SD1328
R7 1K
R6 1K
R4 10
R5 10
C16 100P
R9 3.3K
R8 2.2K
C12 0.022
IC1 HA-11852
C5 0.022
C7 0.022
C10 0.022
PREAMP GND
CH-2 PRE AMP
CH-1 PRE AMP
TRICK PB PRE AMP
S2
S1
Hi
Lo
AMP
PRE AMP
+B
GND
R3 2.2K
R2 47K
C11 0.047
C13 0.022
C14 0.022
Q1 2SD1328
R1 2.7K
C4 100P
C17 47/16
C15 0.022
CN1
1 GND
2 REC VIDEO
3 PB VIDEO
4 FEED BACK
5 PB5V
6 SW25Hz
To Y/CHROMA PG201
PRE AMP P.C.B

※ONE VOLTAGE : PB OR REC MODE,
TWO VOLTAGES : PB AND (REC) MODE.

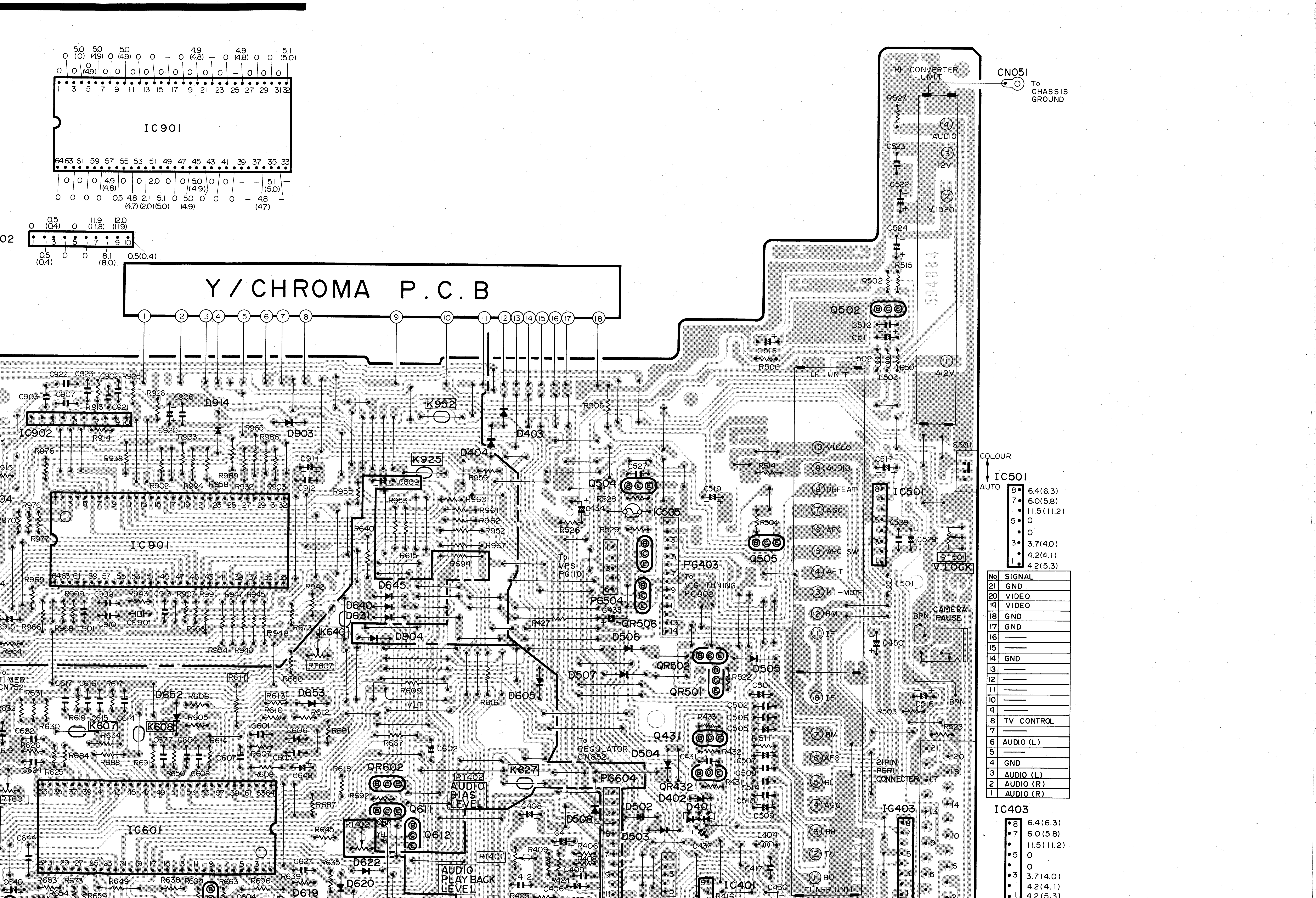
SCHEMATIC DIAGRAM	PAGE VT-125E/VT-135E
INTERNAL WIRING DIAGRAM	5-2/5-2
IF UNIT	5-4/5-4
TUNER UNIT	5-6/5-6
V·S TUNING	5-7/5-7
VPS	5-10/5-10
TIMER/OPERATION SWITCH	5-13/5-13
SYSTEM CONTROL	5-19/5-51
REMOTE CONTROL	5-23/5-55
AUDIO/REAR JACK	5-25/5-57
RF CONVERTER	5-28/5-60
PREAMP	5-29/5-61
SERVO	5-38/5-70
Y/CHROMA	5-41/5-73
REGULATOR	5-50/5-82

MAIN (HAUPT)

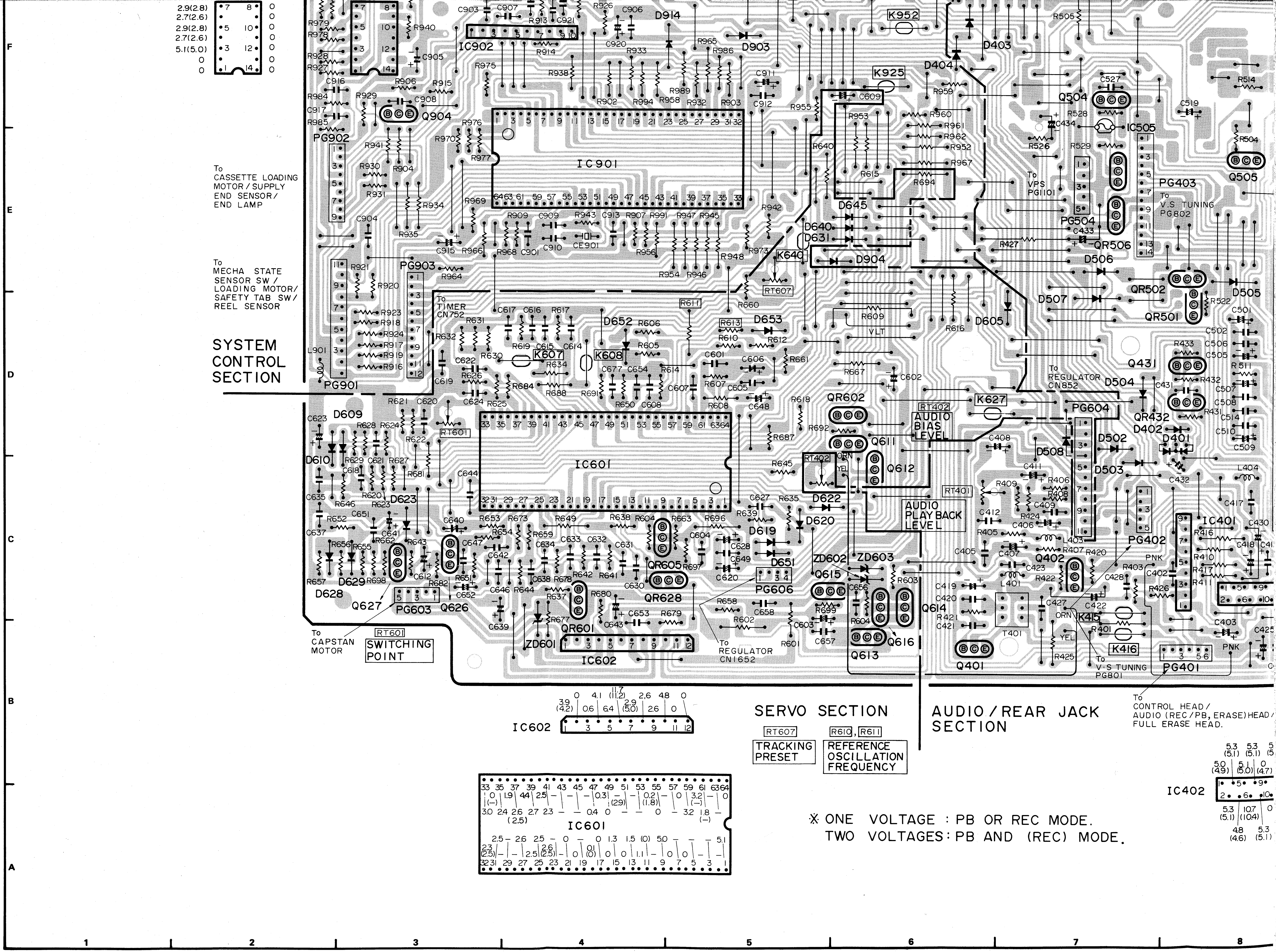
VT-125E (VPS)



H
G
F
E
D
C
IC901
IC902
IC903
Y / CHROMA P.C.B
SYSTEM CONTROL SECTION
To CASSETTE LOADING MOTOR / SUPPLY END SENSOR / END LAMP
To MECHA STATE SENSOR SW / LOADING MOTOR / SAFETY TAB SW / REEL SENSOR
To TIMER CN752
To VPS PG1101
To V.S TUNING PG802
To REGULATOR CN852
PG901
PG902
PG903
PG403
PG504
PG604
IC601
IC505
IC401
Q904
Q504
Q505
Q431
Q611
Q612
QR502
QR501
QR506
QR432
QR602
K952
K925
K640
K607
K608
K627
D914
D903
D403
D404
D645
D640
D631
D904
D652
D653
D605
D507
D506
D505
D504
D502
D503
D508
D402
D401
D609
D610
D623
D622
D620
D619
RT607
RT601
RT402
RT401
AUDIO BIAS LEVEL
AUDIO PLAY BACK LEVEL
VLT
ORN
YEL
CE901
L901
L404

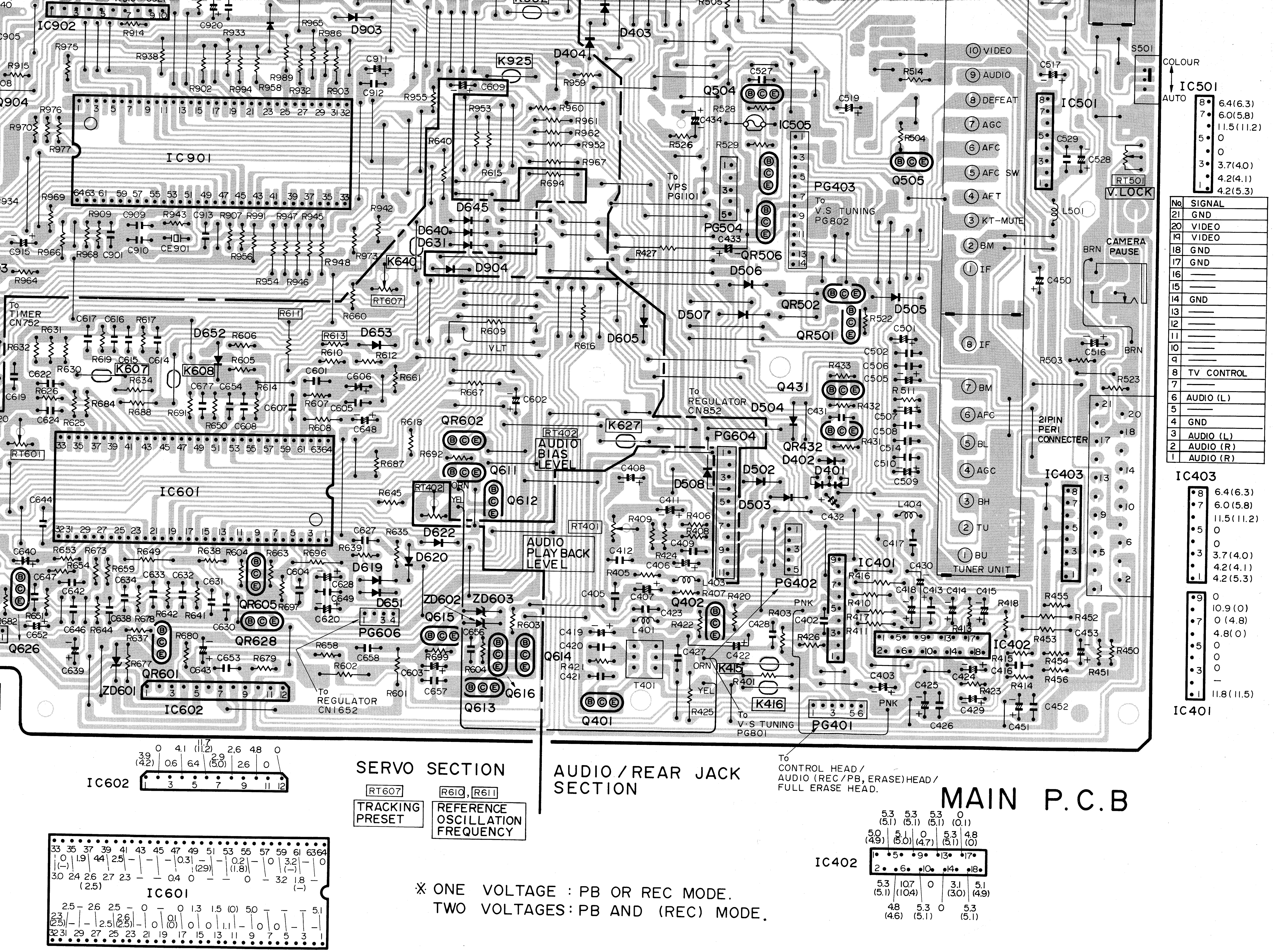

IC901
02
Y/CHROMA P.C.B
RF CONVERTER UNIT
CN051
To CHASSIS GROUND
R527
④ AUDIO
C523
③ 12V
C522
② VIDEO
C524
R515
R502
Q502
C512
C511
C513
R506
L502
L503
R501
① A12V
IF UNIT
594884
C922 C923 C902 R925
C903 C907
R913 C921
R926 C906
D914
IC902
R914
C920
R933
R965
D903
R986
R975
R938
C911
C912
K925
D404
R959
D403
R505
C527
Q504
C519
R514
C517
S501
COLOUR
AUTO
IC501
R976
R902 R994 R958 R932 R903
R989
R955
C609
R953
R960 R961 R962 R952 R967
R528
C434
IC505
R526
R529
PG403
To V.S TUNING PG802
R504
Q505
⑩ VIDEO
⑨ AUDIO
⑧ DEFEAT
⑦ AGC
⑥ AFC
⑤ AFC SW
④ AFT
③ KT-MUTE
② BM
① IF
C529 C528
RT501
V.LOCK
L501
R640
R615
R694
To VPS PG1101
R942
R969
R909 C909 R943 C913 R907 R991 R947 R945
C910 CE901 C901
R966 R968 R956
R954 R946 R948
R973
D645
D640
D631
K640
D904
RT607
R427
PG504
C433
QR506
D506
CAMERA PAUSE
BRN
C450
R964
To TIMER CN752
C617 C616 R617
R631
R632
D652 R606
R619 C615 C614
R630 K607
R634
R605
K608
R611
R613 D653
R610 R612
R660
R609
VLT
R616
D605
D507
QR502
QR501
R522
D505
C501 C502 C506 C505
R503
C516
R523
C622 R626
C624 R684 R625 R688
R691 C677 C654 R614
R650 C608
C601
R607 C605
R608
C606
C648
R661
R667
C602
R618
QR602
R692
R687
RT402
AUDIO BIAS LEVEL
K627
To REGULATOR CN852
D504
R433
Q431
C431
R432
QR432
R431
R511
C507 C508
C514
C510
C509
PG604
D402
D401
D502
D508
D503
C432
L404
C417
⑧ IF
⑦ BM
⑥ AFC
⑤ BL
④ AGC
③ BH
② TU
① BU
TUNER UNIT
21PIN PERI CONNECTER
IC403
IC401
RT601
IC601
C644
C640
R645
Q611
Q612
RT402
ORN
YEL
D622
D620
D619
C627 R635
R639
R653 R673 R649 R638 R604 R663 R696
R654 R659
C604
AUDIO PLAY BACK LEVEL
RT401
C408
C411
R409 R406 R408
C409
C412 R424
R405 C406
R416
C430
IC501
8 6.4(6.3)
7 6.0(5.8)
11.5(11.2)
5 0
0
3 3.7(4.0)
4.2(4.1)
1 4.2(5.3)
IC403
8 6.4(6.3)
7 6.0(5.8)
11.5(11.2)
5 0
0
3 3.7(4.0)
4.2(4.1)
1 4.2(5.3)

No.	SIGNAL
21	GND
20	VIDEO
19	VIDEO
18	GND
17	GND
16	———
15	———
14	GND
13	———
12	———
11	———
10	———
9	———
8	TV CONTROL
7	———
6	AUDIO (L)
5	———
4	GND
3	AUDIO (L)
2	AUDIO (R)
1	AUDIO (R)


To CASSETTE LOADING MOTOR / SUPPLY END SENSOR / END LAMP
To MECHA STATE SENSOR SW / LOADING MOTOR / SAFETY TAB SW / REEL SENSOR
To TIMER CN752
SYSTEM CONTROL SECTION
To CAPSTAN MOTOR
RT601 SWITCHING POINT
To REGULATOR CN1652
To REGULATOR CN852
To VPS PG1101
To V.S TUNING PG802
To V·S TUNING PG801
RT402 AUDIO BIAS LEVEL
RT401 AUDIO PLAY BACK LEVEL
To CONTROL HEAD / AUDIO (REC/PB, ERASE) HEAD / FULL ERASE HEAD.
SERVO SECTION
RT607 TRACKING PRESET
R610, R611 REFERENCE OSCILLATION FREQUENCY
AUDIO / REAR JACK SECTION
IC901
IC601
IC602
IC902
IC401
IC402
IC505
PG901
PG902
PG903
PG603
PG604
PG606
PG504
PG403
PG402
PG401
ORN
YEL
PNK
VLT
A
B
C
D
E
F
1
2
3
4
5
6
7
8

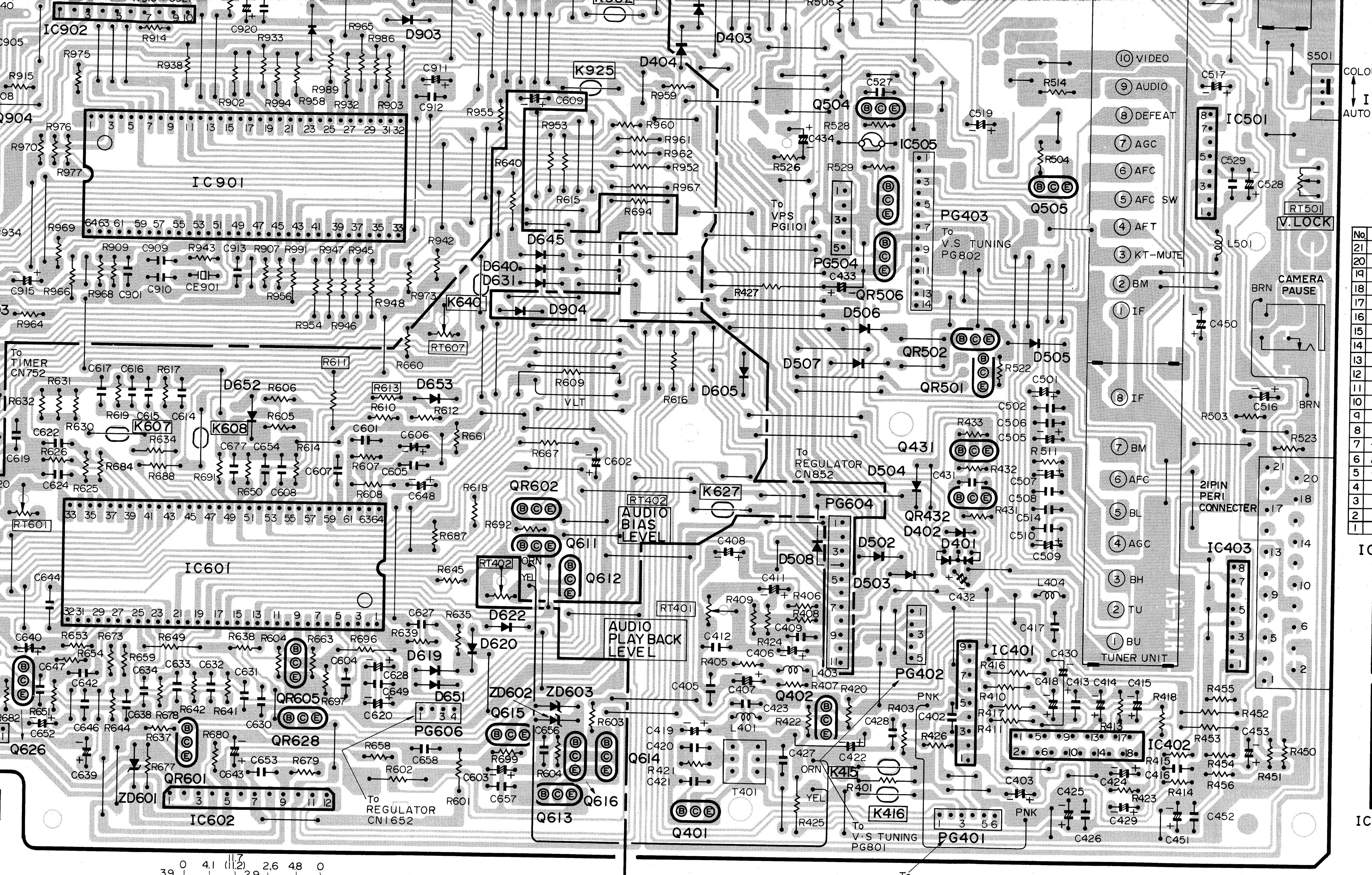
※ ONE VOLTAGE : PB OR REC MODE.
TWO VOLTAGES: PB AND (REC) MODE.

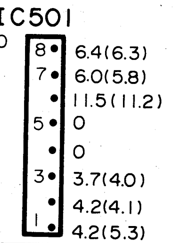
MAIN P.C.B


IC901
IC902
IC601
IC602
IC401
IC402
IC403
IC501
IC505
To TIMER CN752
To VPS PG1101
To V.S TUNING PG802
To REGULATOR CN852
To REGULATOR CN1652
To V.S TUNING PG801
PG403
PG504
PG604
PG402
PG401
PG606
AUDIO BIAS LEVEL
AUDIO PLAY BACK LEVEL
RT401
RT402
⑩ VIDEO
⑨ AUDIO
⑧ DEFEAT
⑦ AGC
⑥ AFC
⑤ AFC SW
④ AFT
③ KT-MUTE
② BM
① IF
⑧ IF
⑦ BM
⑥ AFC
⑤ BL
④ AGC
③ BH
② TU
① BU
TUNER UNIT
S501
COLOUR
AUTO
RT501
V.LOCK
CAMERA PAUSE
BRN
21PIN PERI CONNECTER
SERVO SECTION
RT607
TRACKING PRESET
R610, R611
REFERENCE OSCILLATION FREQUENCY
AUDIO / REAR JACK SECTION
To CONTROL HEAD/ AUDIO (REC/PB, ERASE) HEAD/ FULL ERASE HEAD.

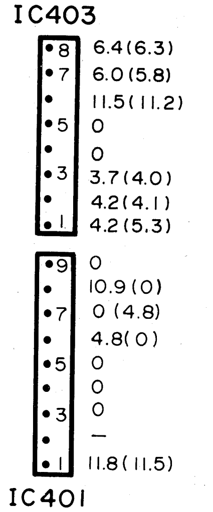
No	SIGNAL
21	GND
20	VIDEO
19	VIDEO
18	GND
17	GND
16	——
15	——
14	GND
13	——
12	——
11	——
10	——
9	——
8	TV CONTROL
7	——
6	AUDIO (L)
5	——
4	GND
3	AUDIO (L)
2	AUDIO (R)
1	AUDIO (R)

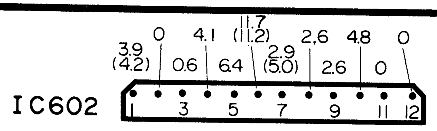
※ ONE VOLTAGE : PB OR REC MODE.
TWO VOLTAGES : PB AND (REC) MODE.


IC901
IC902
IC601
IC602
IC501
IC505
IC401
IC402
IC403
To TIMER CN752
To REGULATOR CN852
To REGULATOR CN1652
To VPS PG1101
To V.S TUNING PG802
To V-S TUNING PG6801
RT607
RT601
RT402
AUDIO BIAS LEVEL
RT401
AUDIO PLAY BACK LEVEL
R610
R611
RT501
V.LOCK
S501
COLOUR
AUTO
CAMERA PAUSE
BRN
ORN
YEL
PNK
21PIN PERI CONNECTER
TUNER UNIT
⑩ VIDEO
⑨ AUDIO
⑧ DEFEAT
⑦ AGC
⑥ AFC
⑤ AFC SW
④ AFT
③ KT-MUTE
② BM
① IF
⑧ IF
⑦ BM
⑥ AFC
⑤ BL
④ AGC
③ BH
② TU
① BU
PG401
PG402
PG403
PG504
PG604
PG606
K415
K416
K607
K608
K627
K640
K925


IC501
8
7
5
3
1
6.4(6.3)
6.0(5.8)
11.5(11.2)
0
0
3.7(4.0)
4.2(4.1)
4.2(5.3)

No	SIGNAL
21	GND
20	VIDEO
19	VIDEO
18	GND
17	GND
16	———
15	———
14	GND
13	———
12	———
11	———
10	———
9	———
8	TV CONTROL
7	———
6	AUDIO (L)
5	———
4	GND
3	AUDIO (L)
2	AUDIO (R)
1	AUDIO (R)


IC403
8
7
5
3
1
6.4(6.3)
6.0(5.8)
11.5(11.2)
0
0
3.7(4.0)
4.2(4.1)
4.2(5.3)
9
7
5
3
1
0
10.9(0)
0 (4.8)
4.8(0)
0
0
0
—
11.8(11.5)
IC401


IC602
3.9 (4.2)
0
0.6
4.1
6.4
11.7 (11.2)
2.9 (5.0)
2.6
2.6
4.8
0
0
1
3
5
7
9
11
12

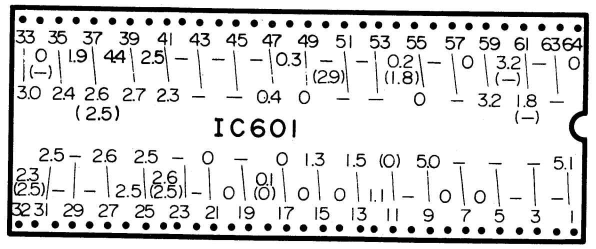
SERVO SECTION

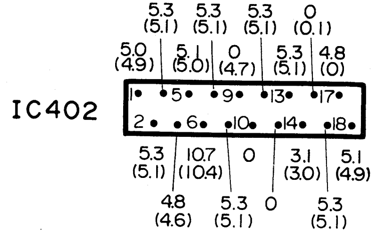
RT607	R610, R611
TRACKING PRESET	REFERENCE OSCILLATION FREQUENCY

AUDIO / REAR JACK SECTION

To
CONTROL HEAD/
AUDIO (REC/PB, ERASE) HEAD/
FULL ERASE HEAD.

MAIN P.C.B

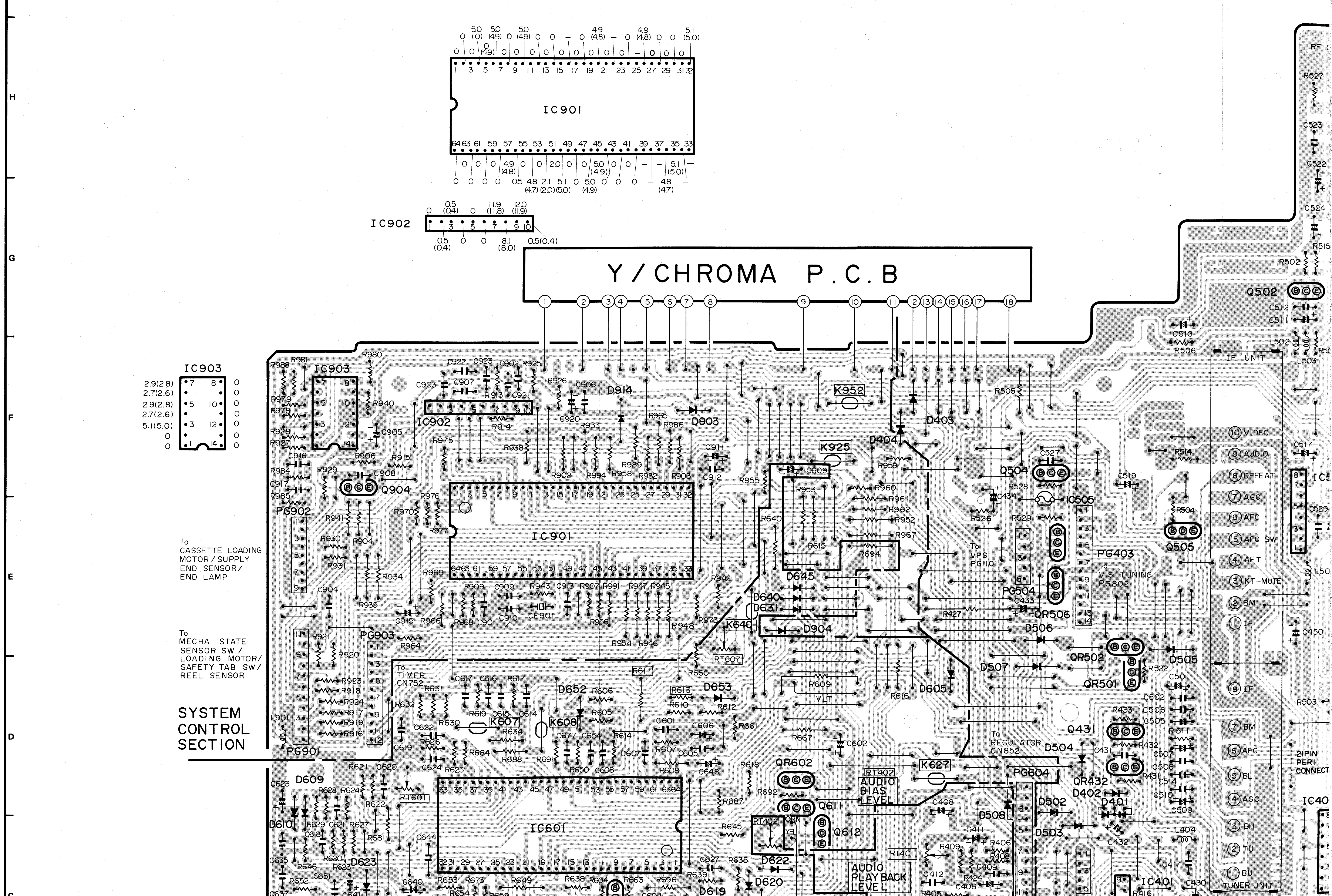

33 35 37 39 41 43 45 47 49 51 53 55 57 59 61 63 64
0 (—)
1.9
4.4
2.5
—
—
—
0.3
— (2.9)
—
0.2 (1.8)
—
0
3.2 (—)
—
0
3.0
2.4
2.6 (2.5)
2.7
2.3
—
—
0.4
0
—
—
0
—
3.2
1.8 (—)
—
IC601
2.5
—
2.6
2.5
—
0
—
0
1.3
1.5
(0)
5.0
—
—
—
5.1
2.3 (2.5)
—
—
2.5
2.6 (2.5)
—
0
0.1 (0)
0
0
1.1
—
0
0
—
—
32 31 29 27 25 23 21 19 17 15 13 11 9 7 5 3 1


IC402
5.3 (5.1)
5.3 (5.1)
5.3 (5.1)
0 (0.1)
5.0 (4.9)
5.1 (5.0)
0 (4.7)
5.3 (5.1)
4.8 (0)
1
5
9
13
17
2
6
10
14
18
5.3 (5.1)
10.7 (10.4)
0
3.1 (3.0)
5.1 (4.9)
4.8 (4.6)
5.3 (5.1)
0
5.3 (5.1)

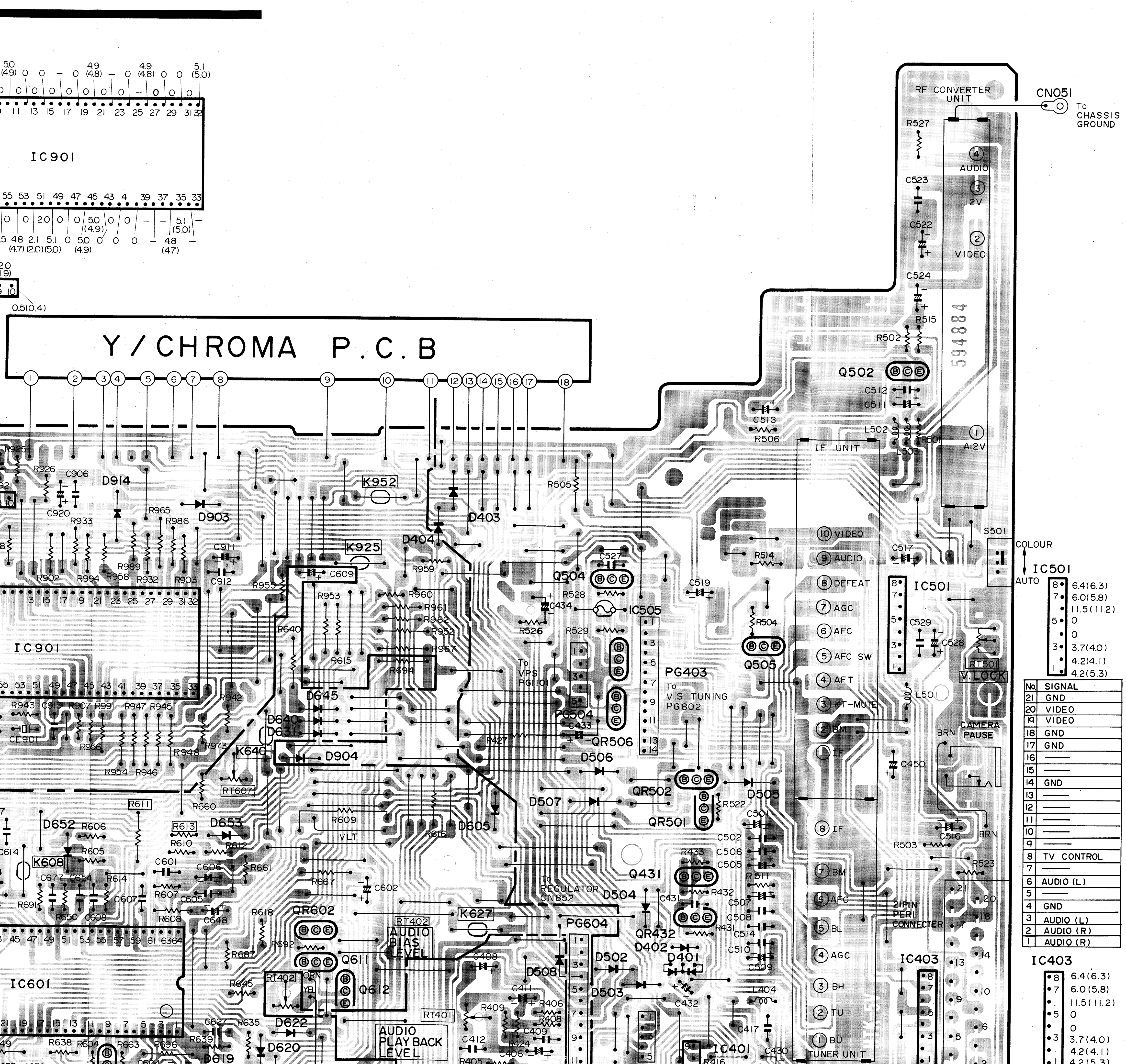
※ ONE VOLTAGE : PB OR REC MODE.
TWO VOLTAGES : PB AND (REC) MODE.

MAIN (HAUPT)

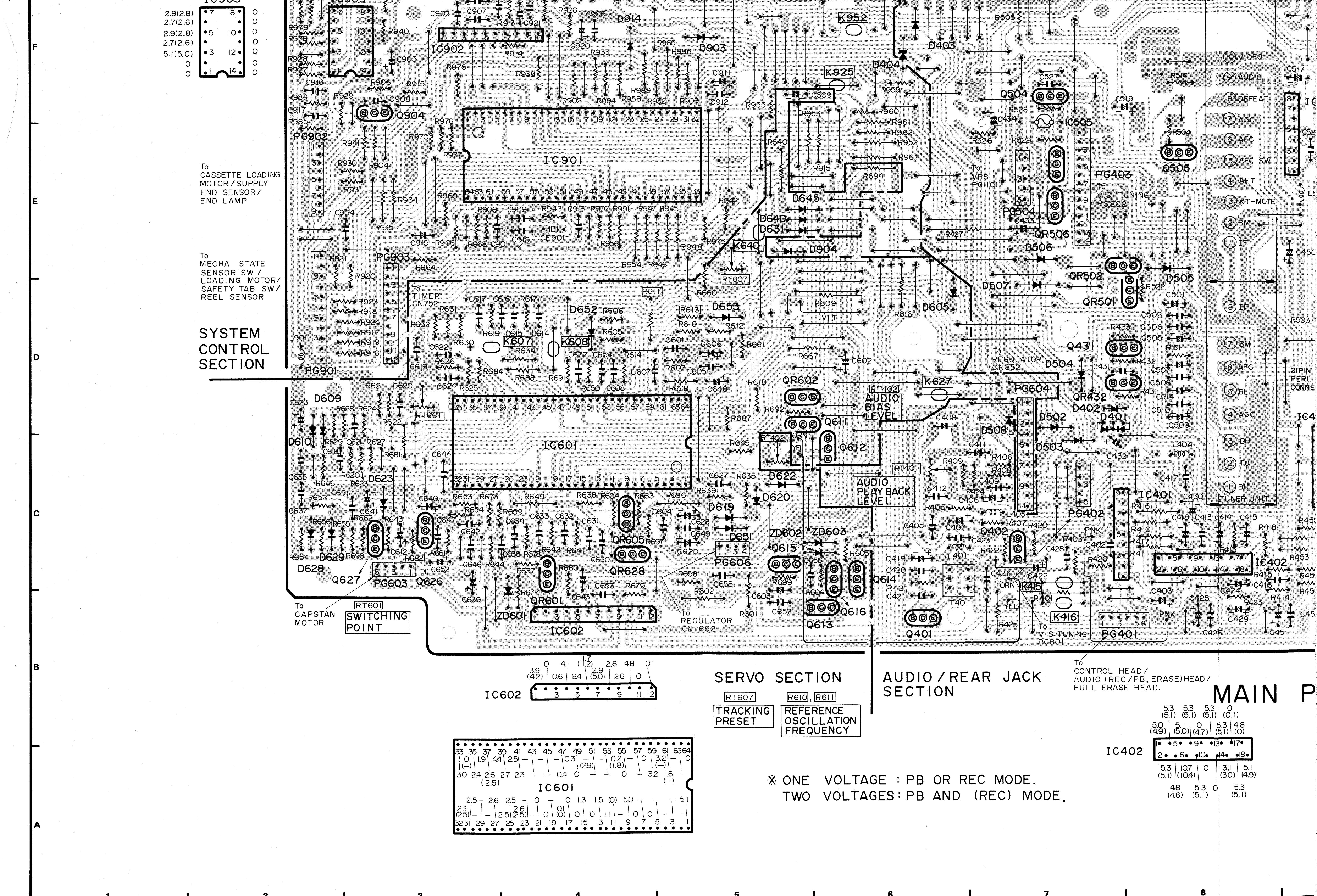
VT-125E (VPS)



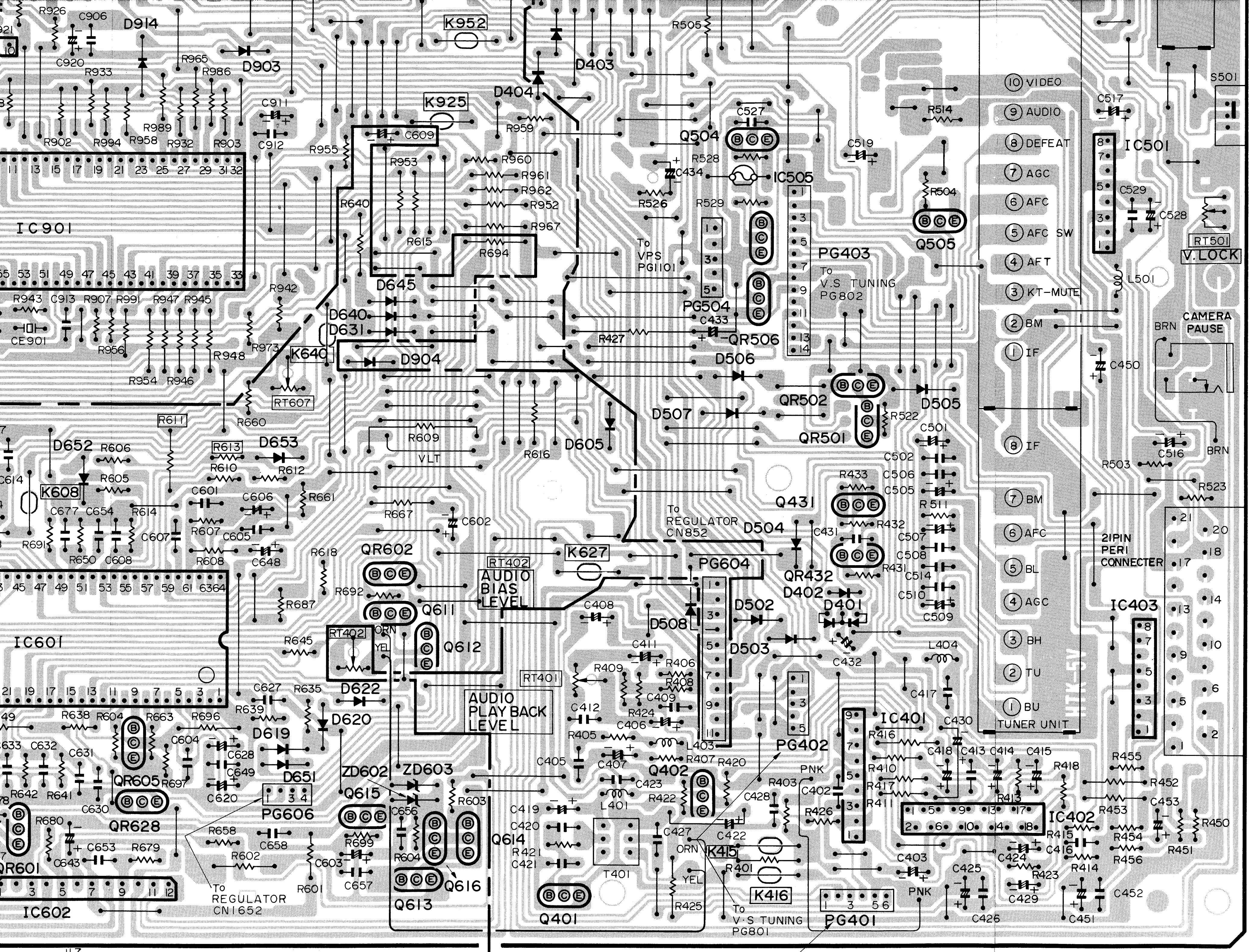
IC901
IC902
IC903
Y/CHROMA P.C.B
IC601
IC505
IC401
Q502
Q504
Q505
Q904
Q431
Q611
Q612
QR501
QR502
QR506
QR432
QR602
PG902
PG903
PG901
PG403
PG504
PG604
K952
K925
K607
K608
K627
K640
RT601
RT607
RT401
RT402
RT402 AUDIO BIAS LEVEL
RT401 AUDIO PLAY BACK LEVEL
To CASSETTE LOADING MOTOR / SUPPLY END SENSOR / END LAMP
To MECHA STATE SENSOR SW / LOADING MOTOR / SAFETY TAB SW / REEL SENSOR
To TIMER CN752
To VPS PG1101
To V.S TUNING PG802
To REGULATOR CN852
SYSTEM CONTROL SECTION
IF UNIT
⑩ VIDEO
⑨ AUDIO
⑧ DEFEAT
⑦ AGC
⑥ AFC
⑤ AFC SW
④ AFT
③ KT-MUTE
② BM
① IF
⑧ IF
⑦ BM
⑥ AFC
⑤ BL
④ AGC
③ BH
② TU
① BU
TUNER UNIT
21PIN PERI CONNECT
VLT
RF


Y / CHROMA P.C.B
IC901
IC601
RF CONVERTER UNIT
CN051
To CHASSIS GROUND
④ AUDIO
③ 12V
② VIDEO
① A12V
594884
IF UNIT
⑩ VIDEO
⑨ AUDIO
⑧ DEFEAT
⑦ AGC
⑥ AFC
⑤ AFC SW
④ AFT
③ KT-MUTE
② BM
① IF
⑧ IF
⑦ BM
⑥ AFC
⑤ BL
④ AGC
③ BH
② TU
① BU
TUNER UNIT
S501
COLOUR
AUTO
RT501
V. LOCK
CAMERA PAUSE
BRN
21PIN PERI CONNECTER
IC501
IC403
IC505
IC401
Q502
Q504
Q505
QR506
QR502
QR501
Q431
QR432
QR602
Q611
Q612
PG403
To V.S TUNING PG802
PG504
To VPS PG1101
PG604
To REGULATOR CN852
K952
K925
K640
K608
K627
RT607
RT402
RT401
AUDIO BIAS LEVEL
AUDIO PLAY BACK LEVEL
VLT
D914
D903
D403
D404
D645
D640
D631
D904
D506
D507
D505
D605
D652
D653
D504
D502
D508
D503
D402
D401
D622
D620
D619
ORN
YEL
IC501
8 6.4(6.3)
7 6.0(5.8)
11.5(11.2)
5 0
0
3 3.7(4.0)
4.2(4.1)
1 4.2(5.3)
IC403
8 6.4(6.3)
7 6.0(5.8)
11.5(11.2)
5 0
0
3 3.7(4.0)
4.2(4.1)
1 4.2(5.3)

No.	SIGNAL
21	GND
20	VIDEO
19	VIDEO
18	GND
17	GND
16	———
15	———
14	GND
13	———
12	———
11	———
10	———
9	———
8	TV CONTROL
7	———
6	AUDIO (L)
5	———
4	GND
3	AUDIO (L)
2	AUDIO (R)
1	AUDIO (R)

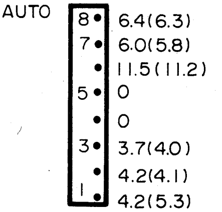

SYSTEM CONTROL SECTION
SERVO SECTION
AUDIO / REAR JACK SECTION
MAIN P
To CASSETTE LOADING MOTOR / SUPPLY END SENSOR / END LAMP
To MECHA STATE SENSOR SW / LOADING MOTOR / SAFETY TAB SW / REEL SENSOR
To TIMER CN752
To CAPSTAN MOTOR
RT601 SWITCHING POINT
To REGULATOR CN1652
RT607 TRACKING PRESET
R610, R611 REFERENCE OSCILLATION FREQUENCY
RT402 AUDIO BIAS LEVEL
RT401 AUDIO PLAY BACK LEVEL
To VPS PG1101
To V.S TUNING PG802
To REGULATOR CN852
To V.S TUNING PG801
To CONTROL HEAD / AUDIO (REC/PB, ERASE) HEAD / FULL ERASE HEAD.
TUNER UNIT
⑩ VIDEO
⑨ AUDIO
⑧ DEFEAT
⑦ AGC
⑥ AFC
⑤ AFC SW
④ AFT
③ KT-MUTE
② BM
① IF
⑧ IF
⑦ BM
⑥ AFC
⑤ BL
④ AGC
③ BH
② TU
① BU
21PIN PERI CONNE
IC901
IC601
IC602
IC902
IC401
IC402
IC505
PG901
PG902
PG903
PG603
PG604
PG606
PG401
PG402
PG403
PG504

※ ONE VOLTAGE : PB OR REC MODE.
TWO VOLTAGES: PB AND (REC) MODE.


IC901
IC601
IC602
IC501
IC505
IC403
IC401
IC402
D914
D903
D404
D403
K952
K925
K640
K608
K627
K415
K416
Q504
Q505
QR506
QR502
QR501
Q431
QR432
QR602
Q611
Q612
QR605
QR628
QR601
Q615
Q613
Q614
Q616
Q402
Q401
D645
D640
D631
D904
D506
D507
D505
D605
D504
D402
D401
D502
D503
D508
D652
D653
D622
D620
D619
D651
ZD602
ZD603
PG403
PG504
PG604
PG606
PG402
PG401
RT607
RT402
RT401
RT501
T401
L501
L404
L401
L403
S501
COLOUR
AUTO
V.LOCK
CAMERA PAUSE
BRN
ORN
YEL
PNK
VLT
To VPS PG1101
To V.S TUNING PG802
To REGULATOR CN852
To REGULATOR CN1652
To V.S TUNING PG801
AUDIO BIAS LEVEL
AUDIO PLAY BACK LEVEL
21PIN PERI CONNECTER
⑩ VIDEO
⑨ AUDIO
⑧ DEFEAT
⑦ AGC
⑥ AFC
⑤ AFC SW
④ AFT
③ KT-MUTE
② BM
① IF
⑧ IF
⑦ BM
⑥ AFC
⑤ BL
④ AGC
③ BH
② TU
① BU
TUNER UNIT

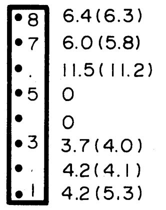
To
CONTROL HEAD/
AUDIO (REC/PB, ERASE) HEAD/
FULL ERASE HEAD.

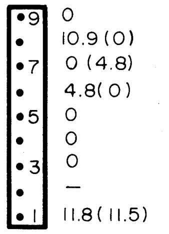
IC501


8 6.4(6.3)
7 6.0(5.8)
11.5(11.2)
5 0
0
3 3.7(4.0)
4.2(4.1)
1 4.2(5.3)

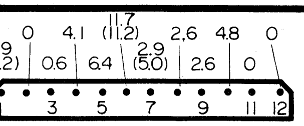
No	SIGNAL
21	GND
20	VIDEO
19	VIDEO
18	GND
17	GND
16	———
15	———
14	GND
13	———
12	———
11	———
10	———
9	———
8	TV CONTROL
7	———
6	AUDIO (L)
5	———
4	GND
3	AUDIO (L)
2	AUDIO (R)
1	AUDIO (R)

IC403


8 6.4(6.3)
7 6.0(5.8)
11.5(11.2)
5 0
0
3 3.7(4.0)
4.2(4.1)
1 4.2(5.3)


9 0
10.9(0)
7 0(4.8)
4.8(0)
5 0
0
3 0
–
1 11.8(11.5)

IC401


0 4.1 11.7 (11.2) 2.6 4.8 0
9 .2) 0.6 6.4 2.9 (5.0) 2.6 0
3 5 7 9 11 12

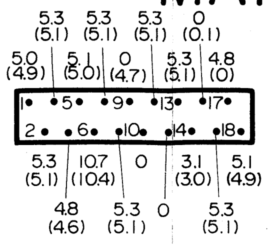
SERVO SECTION

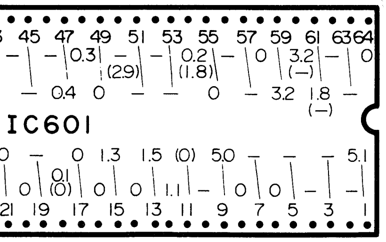
RT607	R610, R611
TRACKING PRESET	REFERENCE OSCILLATION FREQUENCY

AUDIO / REAR JACK SECTION

MAIN P.C.B

IC402

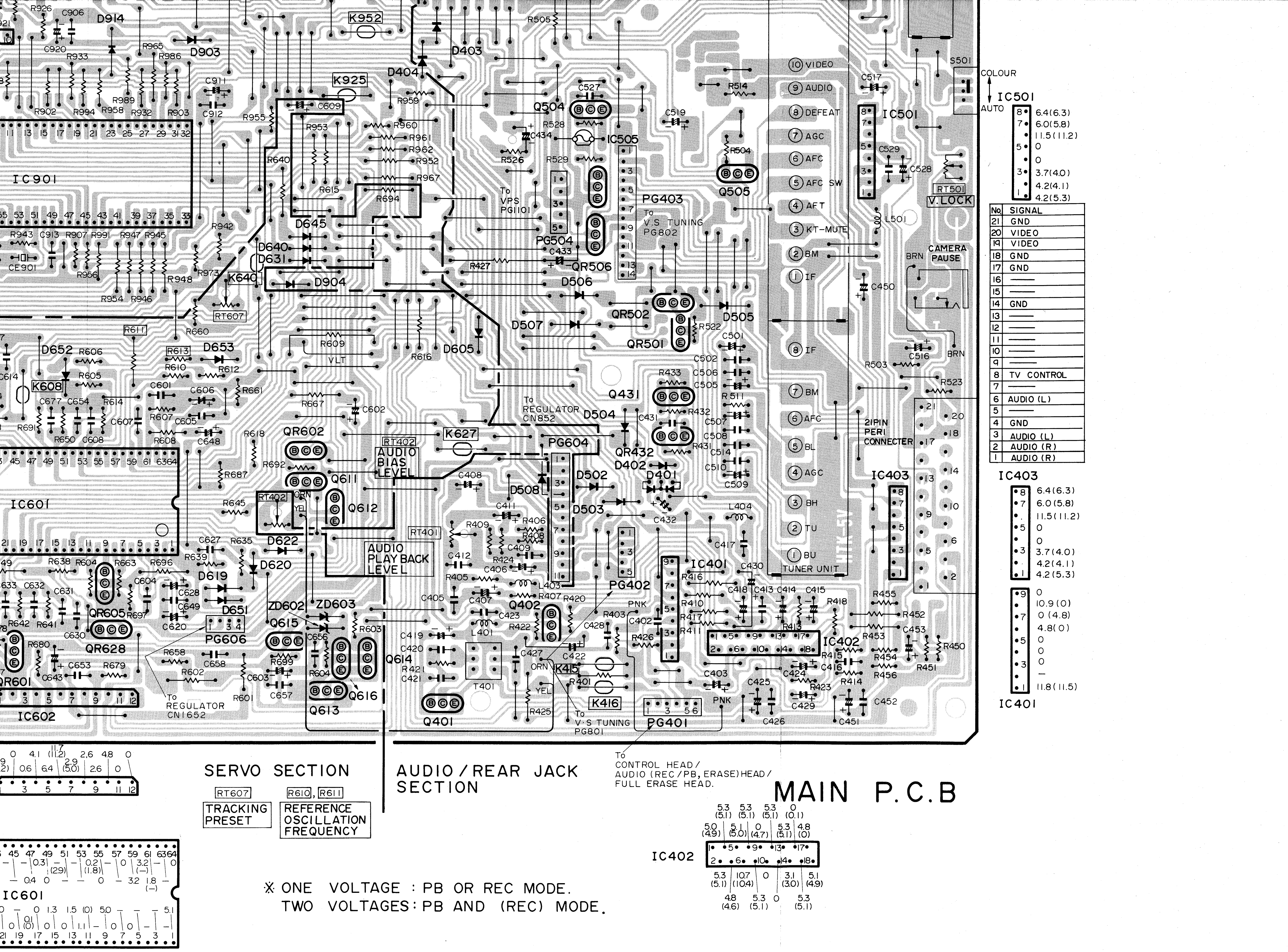

5.3 (5.1) 5.3 (5.1) 5.3 (5.1) 0 (0.1)
5.0 (4.9) 5.1 (5.0) 0 (4.7) 5.3 (5.1) 4.8 (0)
1 5 9 13 17
2 6 10 14 18
5.3 (5.1) 10.7 (10.4) 0 3.1 (3.0) 5.1 (4.9)
4.8 (4.6) 5.3 (5.1) 0 5.3 (5.1)


5 45 47 49 51 53 55 57 59 61 63 64
– – 0.3 – – 0.2 – 0 3.2 – 0
(2.9) (1.8) (–)
– 0.4 0 – – 0 – 3.2 1.8 –
(–)
0 – 0 1.3 1.5 (0) 5.0 – – 5.1
0 0 0 0 1.1 – 0 0 – –
(0)
21 19 17 15 13 11 9 7 5 3 1

IC601

※ ONE VOLTAGE : PB OR REC MODE.
TWO VOLTAGES : PB AND (REC) MODE.

4 5 6 7 8 9 10 11


IC901
IC601
IC602
IC501
IC403
IC401
IC402
IC505
TUNER UNIT
21PIN PERI CONNECTER
COLOUR
AUTO
S501
V.LOCK
RT501
CAMERA PAUSE
BRN
PG403
To V.S TUNING PG802
To VPS PG1101
To REGULATOR CN852
To REGULATOR CN1652
To V.S TUNING PG801
PG401
PG402
PG504
PG604
PG606
RT607
RT402
AUDIO BIAS LEVEL
RT401
AUDIO PLAY BACK LEVEL
⑩ VIDEO
⑨ AUDIO
⑧ DEFEAT
⑦ AGC
⑥ AFC
⑤ AFC SW
④ AFT
③ KT-MUTE
② BM
① IF
⑧ IF
⑦ BM
⑥ AFC
⑤ BL
④ AGC
③ BH
② TU
① BU
IC501: 8 6.4(6.3); 7 6.0(5.8); 11.5(11.2); 5 0; 0; 3 3.7(4.0); 4.2(4.1); 1 4.2(5.3)
IC403: 8 6.4(6.3); 7 6.0(5.8); 11.5(11.2); 5 0; 0; 3 3.7(4.0); 4.2(4.1); 1 4.2(5.3)
IC401: 9 0; 10.9(0); 7 0(4.8); 4.8(0); 5 0; 0; 3 0; –; 1 11.8(11.5)
SERVO SECTION
RT607 TRACKING PRESET
R610, R611 REFERENCE OSCILLATION FREQUENCY
AUDIO / REAR JACK SECTION
To CONTROL HEAD / AUDIO (REC/PB, ERASE) HEAD / FULL ERASE HEAD.
MAIN P.C.B

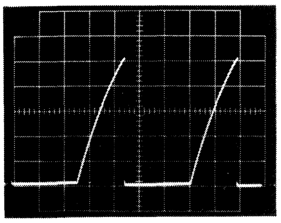
No.	SIGNAL
21	GND
20	VIDEO
19	VIDEO
18	GND
17	GND
16	———
15	———
14	GND
13	———
12	———
11	———
10	———
9	———
8	TV CONTROL
7	———
6	AUDIO (L)
5	———
4	GND
3	AUDIO (L)
2	AUDIO (R)
1	AUDIO (R)

※ ONE VOLTAGE : PB OR REC MODE.
TWO VOLTAGES : PB AND (REC) MODE.

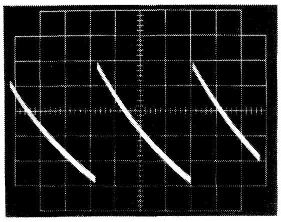
SERVO CIRCUIT WAVEFORMS (WELLENFORM)

[IC601] **(REC: Colour bar Video in/PB: Alignment tape)**

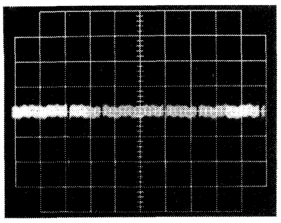
① PIN2 REC/PB
0.5V/10ms. div.



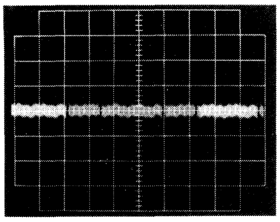
② PIN3 REC/PB
0.1V/10ms. div.



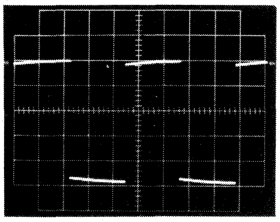
③ PIN4 REC/PB
50mV/10ms. div.



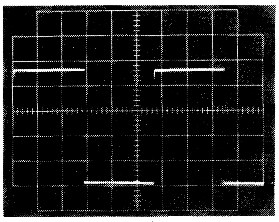
④ PIN5 REC/PB
50mV/10ms. div.



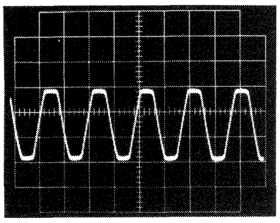
⑤ PIN11 REC/PB
1V/0.2ms. div.



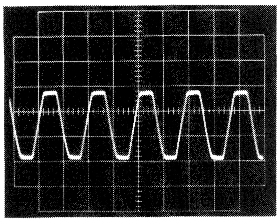
⑥ PIN22 REC/PB
1V/20µs. div.



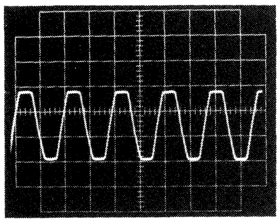
⑦ PIN28 REC/PB
0.5V/1ms. div.



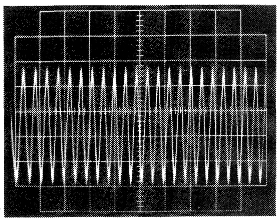
⑧ PIN29 REC/PB
0.5V/1ms. div.



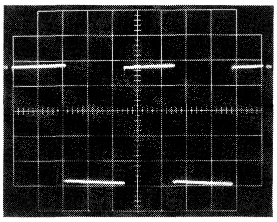
⑨ PIN30 REC/PB
1V/1ms. div.



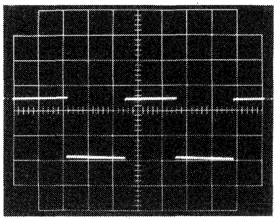
⑩ PIN32 REC/PB
50mV/0.5µs. div.



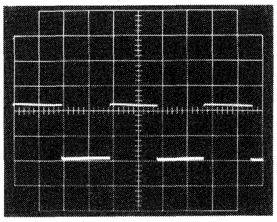
⑪ PIN42 REC/PB
1V/0.1ms. div.



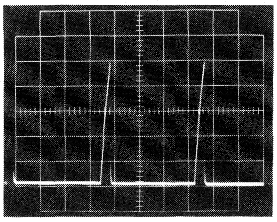
⑫ PIN43 REC/PB
2V/0.1ms. div.



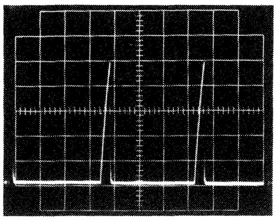
⑬ PIN44 REC/PB
2V/10ms. div.



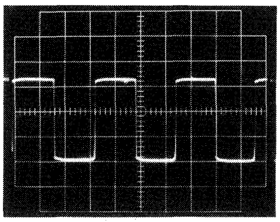
⑭ PIN45 REC/PB
0.5V/5ms. div.



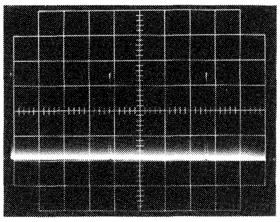
⑮ PIN46 REC/PB
0.5V/5ms. div.



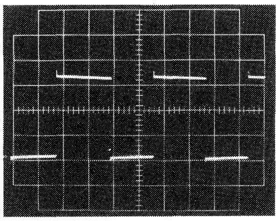
⑯ PIN50 REC/PB
1V/1ms. div.



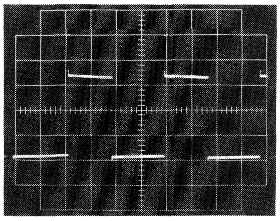
⑰ PIN53 REC/PB
1V/5ms. div.



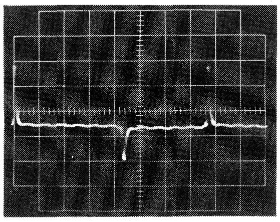
⑱ PIN59 REC
1V/10ms. div.



⑲ PIN60 REC
1V/10ms. div.

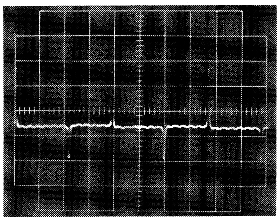


⑳ PIN62 PB
1V/5ms. div.



[IC601]

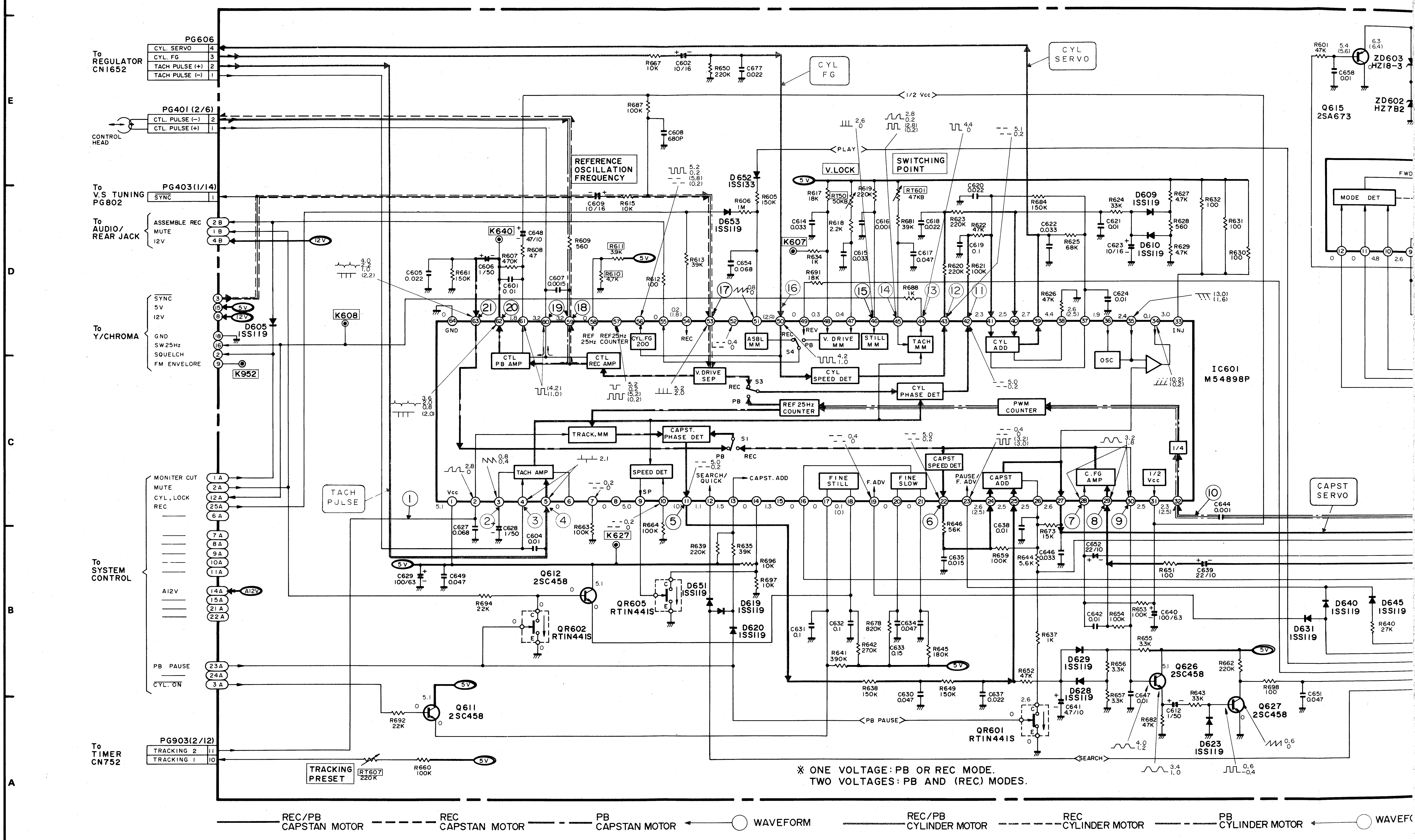
㉑ PIN63 PB
1V/10ms. div.

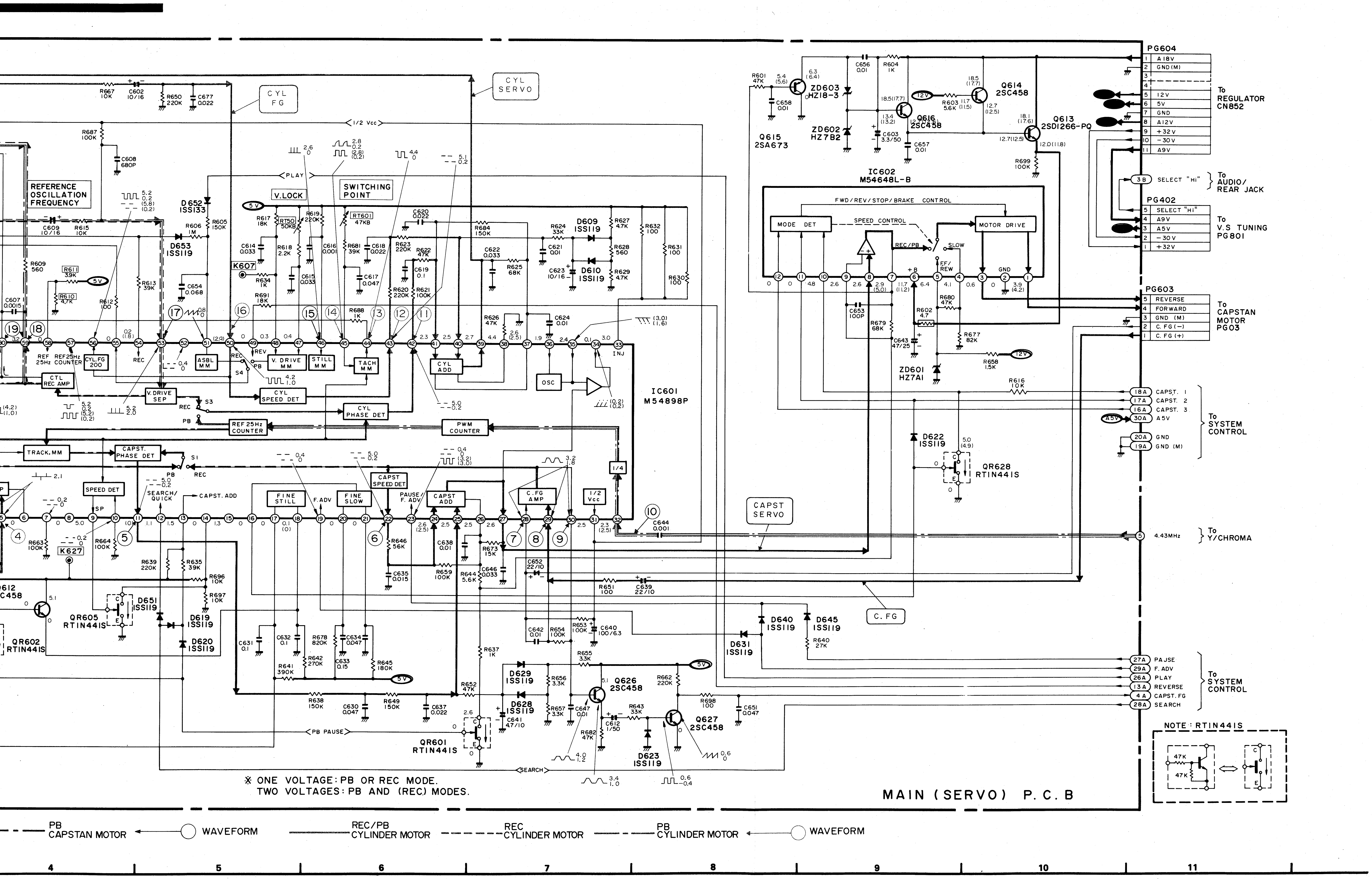


SCHEMATIC DIAGRAM	PAGE VT-125E/VT-135E
INTERNAL WIRING DIAGRAM	5-2/5-2
IF UNIT	5-4/5-4
TUNER UNIT	5-6/5-6
V·S TUNING	5-7/5-7
VPS	5-10/5-10
TIMER/OPERATION SWITCH	5-13/5-13
SYSTEM CONTROL	5-19/5-51
REMOTE CONTROL	5-23/5-55
AUDIO/REAR JACK	5-25/5-57
RF CONVERTER	5-28/5-60
PREAMP	5-29/5-61
SERVO	5-38/5-70
Y/CHROMA	5-41/5-73
REGULATOR	5-50/5-82

SERVO

VT-125E (VPS)

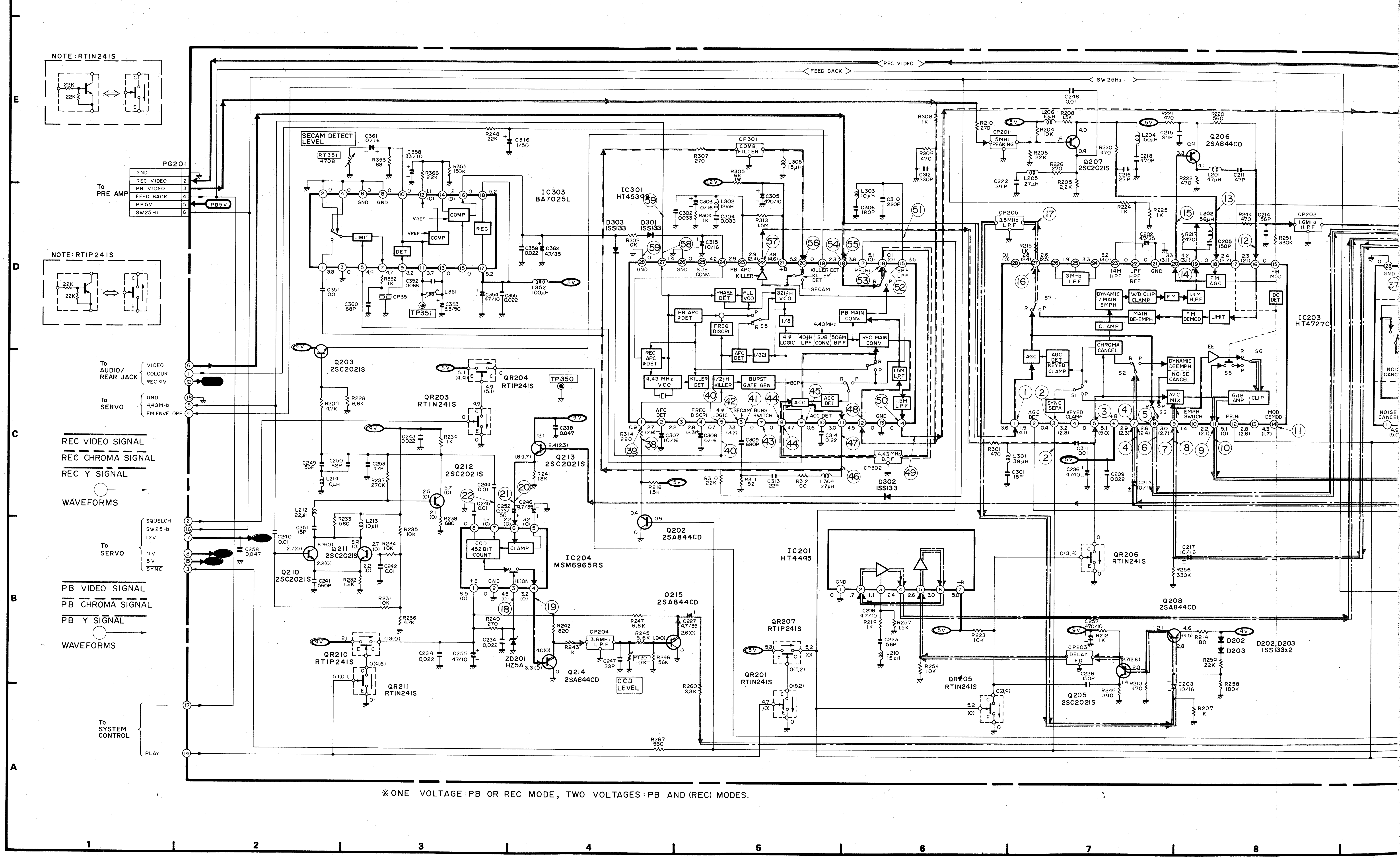

To REGULATOR CN1652
PG606
CYL. SERVO
CYL. FG
TACH PULSE (+)
TACH PULSE (−)
CONTROL HEAD
PG401 (2/6)
CTL. PULSE (−)
CTL. PULSE (+)
To V.S TUNING PG802
PG403 (1/14)
SYNC
To AUDIO/ REAR JACK
ASSEMBLE REC
MUTE
12V
To Y/CHROMA
SYNC
5V
12V
GND
SW25Hz
SQUELCH
FM ENVELORE
To SYSTEM CONTROL
MONITER CUT
MUTE
CYL. LOCK
REC
A12V
PB PAUSE
CYL. ON
To TIMER CN752
PG903 (2/12)
TRACKING 2
TRACKING 1
TRACKING PRESET
RT607 220K
REFERENCE OSCILLATION FREQUENCY
CYL FG
CYL SERVO
V. LOCK
SWITCHING POINT
TACH PULSE
CAPST SERVO
IC601 M54898P
CTL PB AMP
CTL REC AMP
REF 25Hz
REF25Hz COUNTER
CYL.FG 200
V. DRIVE SEP
ASBL MM
V. DRIVE MM
STILL MM
TACH MM
CYL ADD
OSC
INJ
CYL SPEED DET
CYL PHASE DET
REF 25Hz COUNTER
PWM COUNTER
TRACK. MM
CAPST. PHASE DET
TACH AMP
SPEED DET
SEARCH/ QUICK
CAPST. ADD
FINE STILL
F. ADV
FINE SLOW
CAPST SPEED DET
PAUSE/ F. ADV
CAPST ADD
C.FG AMP
1/2 Vcc
1/4
GND
Vcc
ISP
REC
PB
REV
S1
S3
S4
PLAY
1/2 Vcc
SEARCH
PB PAUSE
K640
K608
K952
K607
K627
D605 1SS119
D652 1SS133
D653 1SS119
D609 1SS119
D610 1SS119
D651 1SS119
D619 1SS119
D620 1SS119
D629 1SS119
D628 1SS119
D623 1SS119
D631 1SS119
D640 1SS119
D645 1SS119
Q612 2SC458
Q611 2SC458
Q626 2SC458
Q627 2SC458
Q615 2SA673
QR602 RTN1441S
QR605 RTN1441S
QR601 RTN1441S
ZD603 HZ18-3
ZD602 HZ7B2
MODE DET
FWD
RT501 50KB
RT601 47KB
※ ONE VOLTAGE: PB OR REC MODE.
TWO VOLTAGES: PB AND (REC) MODES.
REC/PB CAPSTAN MOTOR
REC CAPSTAN MOTOR
PB CAPSTAN MOTOR
WAVEFORM
REC/PB CYLINDER MOTOR
REC CYLINDER MOTOR
PB CYLINDER MOTOR
WAVEF



PG604
A 18V
GND (M)
12V
5V
GND
A12V
+32V
-30V
A9V
To REGULATOR CN852
SELECT "Hi"
To AUDIO/ REAR JACK
PG402
SELECT "Hi"
A9V
A5V
-30V
+32V
To V.S TUNING PG801
PG603
REVERSE
FORWARD
GND (M)
C. FG (-)
C. FG (+)
To CAPSTAN MOTOR PG03
CAPST. 1
CAPST. 2
CAPST. 3
A5V
GND
GND (M)
To SYSTEM CONTROL
4.43MHz
To Y/CHROMA
PAJSE
F. ADV
PLAY
REVERSE
CAPST. FG
SEARCH
To SYSTEM CONTROL
NOTE : RTIN441S
47K
47K
Q615 2SA673
ZD603 HZ18-3
ZD602 HZ7B2
Q616 2SC458
Q614 2SC458
Q613 2SD1266-PQ
IC602 M54648L-B
FWD/REV/STOP/BRAKE CONTROL
MODE DET
SPEED CONTROL
MOTOR DRIVE
REC/PB
SLOW
FF/REW
ZD601 HZ7A1
D622 1SS119
QR628 RTIN441S
CYL FG
CYL SERVO
1/2 Vcc
PLAY
REFERENCE OSCILLATION FREQUENCY
V.LOCK
SWITCHING POINT
D652 1SS133
D653 1SS119
D609 1SS119
D610 1SS119
K607
IC601 M54898P
REF 25Hz
REF25Hz COUNTER
CYL.FG 200
REC
ASBL MM
V. DRIVE MM
STILL MM
TACH MM
CYL ADD
OSC
INJ
CTL REC AMP
V. DRIVE SEP
CYL SPEED DET
CYL PHASE DET
REF 25Hz COUNTER
PWM COUNTER
TRACK.MM
CAPST. PHASE DET
SPEED DET
SEARCH/ QUICK
CAPST. ADD
FINE STILL
F.ADV
FINE SLOW
CAPST SPEED DET
PAUSE/ F. ADV
CAPST ADD
C.FG AMP
1/2 Vcc
1/4
CAPST SERVO
C. FG
K627
QR605 RTIN441S
D651 1SS119
D619 1SS119
D620 1SS119
QR602 RTIN441S
D629 1SS119
D628 1SS119
Q626 2SC458
Q627 2SC458
D623 1SS119
D631 1SS119
D640 1SS119
D645 1SS119
QR601 RTIN441S
PB PAUSE
SEARCH
5V
12V
※ ONE VOLTAGE: PB OR REC MODE.
TWO VOLTAGES: PB AND (REC) MODES.
MAIN (SERVO) P. C. B
PB CAPSTAN MOTOR
WAVEFORM
REC/PB CYLINDER MOTOR
REC CYLINDER MOTOR
PB CYLINDER MOTOR
WAVEFORM
4
5
6
7
8
9
10
11

Y/CHROMA (LUMINANZ/CHROMINANZ)

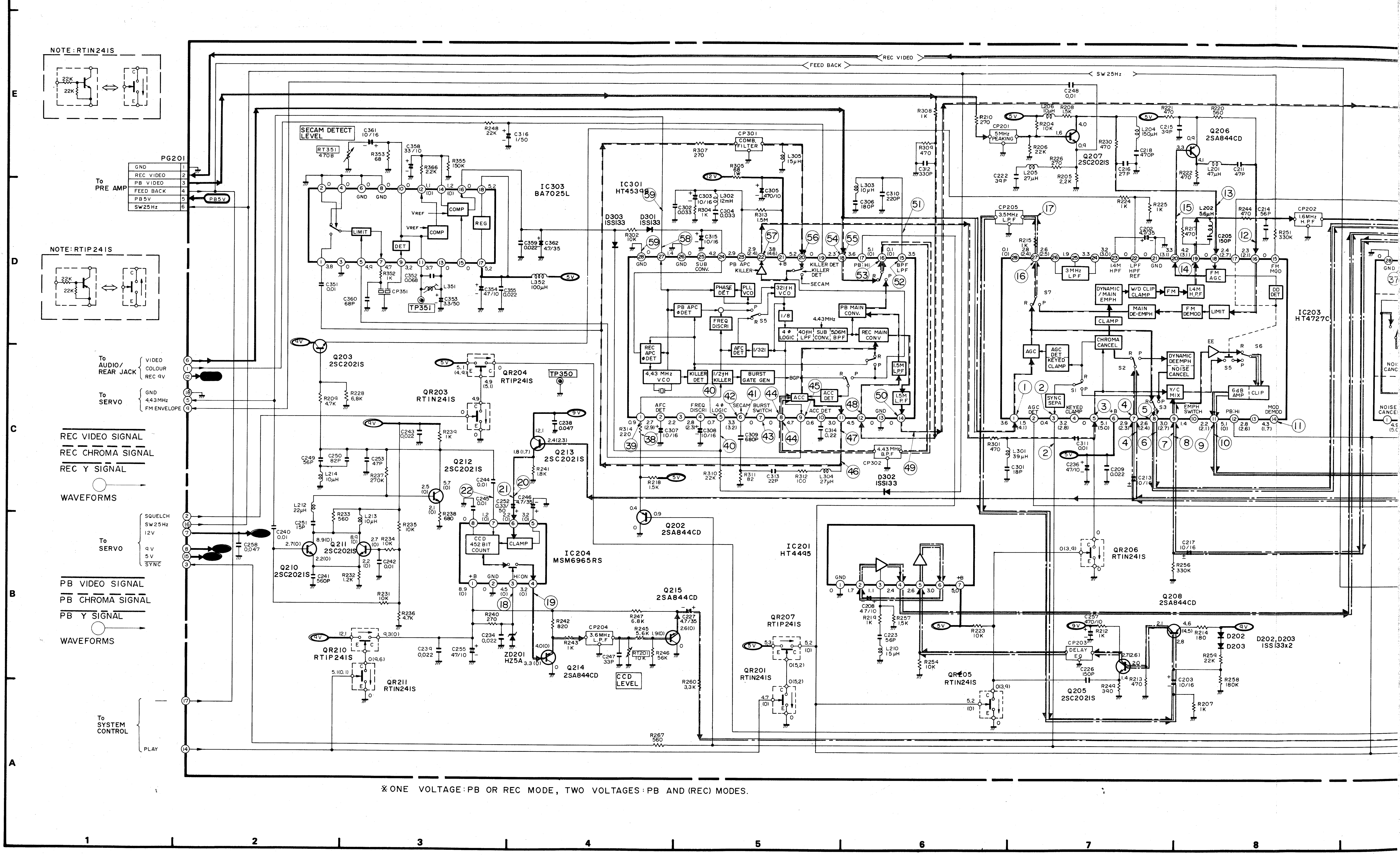
VT-125E (VPS)


NOTE: RTIN241S
NOTE: RTIP241S
PG201
GND
REC VIDEO
PB VIDEO
FEED BACK
PB5V
SW25Hz
To PRE AMP
FEED BACK
REC VIDEO
SW 25Hz
SECAM DETECT LEVEL
IC303 BA7025L
LIMIT
COMP
REG
DET
TP351
IC301 HT45398
D303 ISS133
D301 ISS133
COMB. FILTER
PHASE DET
PLL VCO
32fH VCO
PB APC φDET
FREQ DISCRI
PB MAIN CONV.
REC MAIN CONV
REC APC φDET
4.43 MHz VCO
KILLER DET
1/2fH KILLER
BURST GATE GEN
ACC
ACC DET
1.5M LPF
CP302 4.43MHz B.P.F
D302 ISS133
IC203 HT4727C
CP205 3.5MHz L.P.F
CP201 5MHz PEAKING
Q206 2SA844CD
Q207 2SC2021S
CP202 1.6MHz H.P.F
3MHz LPF
DYNAMIC /MAIN EMPH
W/D CLIP CLAMP
FM
1.4M H.P.F
FM AGC
DO DET
MAIN DE-EMPH
FM DEMOD
LIMIT
CLAMP
CHROMA CANCEL
AGC
AGC DET KEYED CLAMP
SYNC SEPA
DYNAMIC DEEMPH
NOISE CANCEL
Y/C MIX
6dB AMP
CLIP
To AUDIO/ REAR JACK
VIDEO
COLOUR
REC 9V
To SERVO
GND
4.43MHz
FM ENVELOPE
Q203 2SC2021S
QR204 RTIP241S
QR203 RTIN241S
TP350
Q212 2SC2021S
Q213 2SC2021S
REC VIDEO SIGNAL
REC CHROMA SIGNAL
REC Y SIGNAL
WAVEFORMS
SQUELCH
SW25Hz
12V
9V
5V
SYNC
To SERVO
Q210 2SC2021S
Q211 2SC2021S
CCD 452 BIT COUNT
CLAMP
IC204 MSM6965RS
Q202 2SA844CD
IC201 HT4495
QR206 RTIN241S
PB VIDEO SIGNAL
PB CHROMA SIGNAL
PB Y SIGNAL
WAVEFORMS
Q215 2SA844CD
QR207 RTIP241S
Q208 2SA844CD
D202,D203 ISS133x2
QR210 RTIP241S
QR211 RTIN241S
ZD201 HZ5A
Q214 2SA844CD
CP204 3.6MHz L.P.F
CCD LEVEL
QR201 RTIN241S
QR205 RTIN241S
CP203 DELAY EQ
Q205 2SC2021S
To SYSTEM CONTROL
PLAY
E
D
C
B
A
1
2
3
4
5
6
7
8

※ONE VOLTAGE: PB OR REC MODE, TWO VOLTAGES: PB AND (REC) MODES.

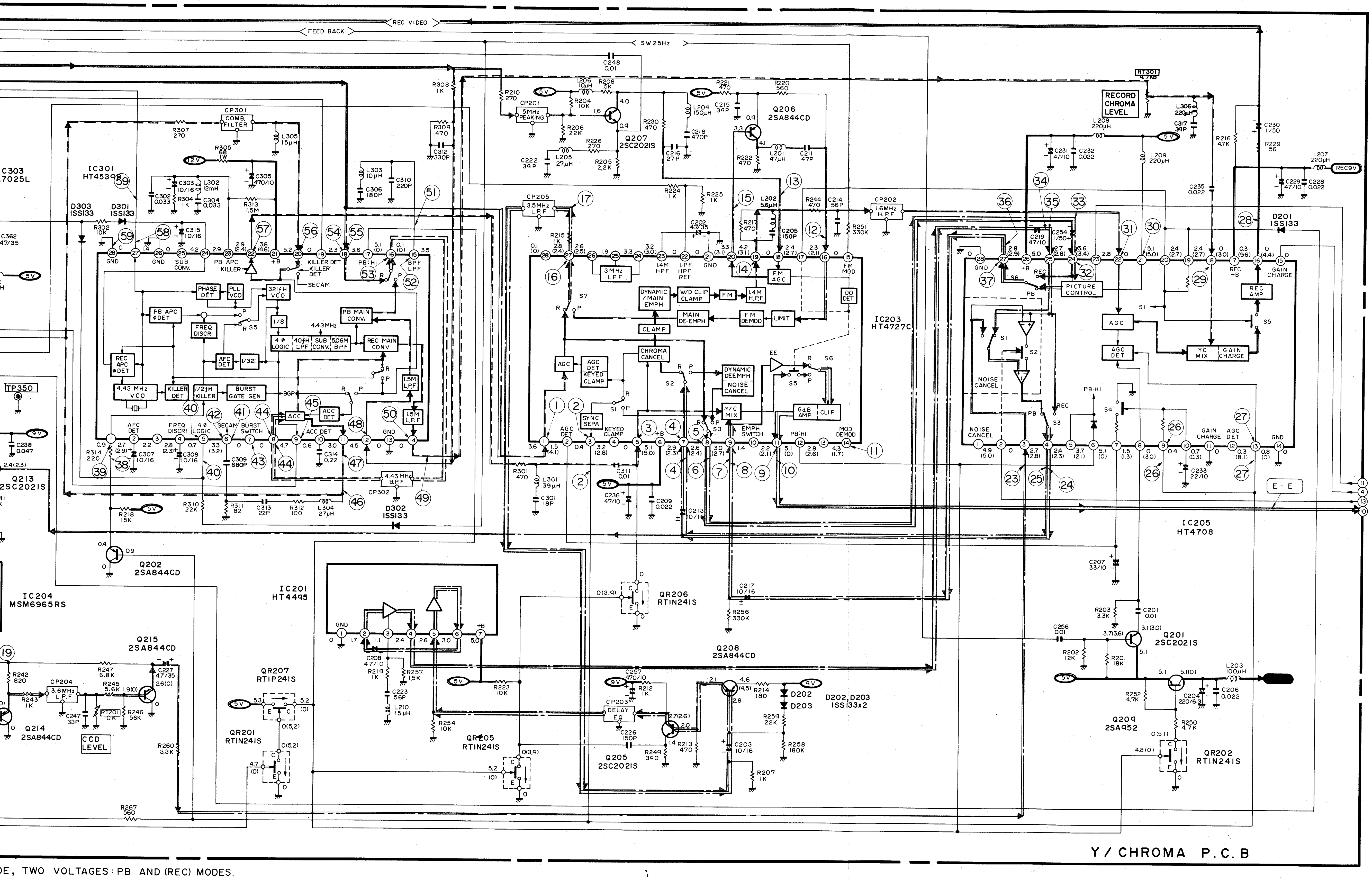
Y/CHROMA (LUMINANZ/CHROMINANZ)

VT-125E (VPS)


NOTE: RTIN241S
NOTE: RTIP241S
PG201
GND
REC VIDEO
PB VIDEO
FEED BACK
PB5V
SW25Hz
To PRE AMP
To AUDIO/REAR JACK
VIDEO
COLOUR
REC 9V
To SERVO
GND
4.43MHz
FM ENVELOPE
REC VIDEO SIGNAL
REC CHROMA SIGNAL
REC Y SIGNAL
WAVEFORMS
To SERVO
SQUELCH
SW25Hz
12V
9V
5V
SYNC
PB VIDEO SIGNAL
PB CHROMA SIGNAL
PB Y SIGNAL
WAVEFORMS
To SYSTEM CONTROL
PLAY
FEED BACK
REC VIDEO
SW25Hz
SECAM DETECT LEVEL
IC303 BA7025L
LIMIT
DET
COMP
REG
TP351
TP350
IC301 HT4539B
COMB. FILTER
PB APC KILLER
KILLER DET
SECAM
PHASE DET
PLL VCO
321fH VCO
PB APC φDET
FREQ DISCRI
1/8
4φ LOGIC
40fH LPF
SUB CONV.
5.06M BPF
PB MAIN CONV.
REC MAIN CONV
AFC DET
1/321
REC APC φDET
4.43 MHz VCO
KILLER DET
1/2fH KILLER
BURST GATE GEN
ACC
ACC DET
1.5M LPF
4.43MHz B.P.F
D302 1SS133
D303 1SS133
D301 1SS133
Q203 2SC2021S
QR204 RTIP241S
QR203 RTIN241S
Q212 2SC2021S
Q213 2SC2021S
Q211 2SC2021S
Q210 2SC2021S
IC204 MSM6965RS
CCD 452 BIT COUNT
CLAMP
ZD201 HZ5A
Q214 2SA844CD
CP204 3.6MHz L.P.F
CCD LEVEL
Q215 2SA844CD
QR210 RTIP241S
QR211 RTIN241S
Q202 2SA844CD
IC201 HT4495
QR207 RTIP241S
QR201 RTIN241S
QR205 RTIN241S
QR206 RTIN241S
Q208 2SA844CD
Q205 2SC2021S
CP203 DELAY EQ
D202, D203 1SS133x2
IC203 HT4727C
CP201 5MHz PEAKING
Q207 2SC2021S
Q206 2SA844CD
CP205 3.5MHz L.P.F
CP202 1.6MHz H.P.F
3MHz LPF
DYNAMIC /MAIN EMPH
W/D CLIP CLAMP
FM
1.4M H.P.F
FM AGC
DO DET
MAIN DE-EMPH
FM DEMOD
LIMIT
CLAMP
CHROMA CANCEL
AGC
AGC DET KEYED CLAMP
SYNC SEPA
DYNAMIC DEEMPH NOISE CANCEL
Y/C MIX
6dB AMP
CLIP
EE
AGC DET
KEYED CLAMP
EMPH SWITCH
PB:Hi
MOD DEMOD
FM MOD
1.4M HPF
LPF HPF REF
NOISE CANCEL
1
2
3
4
5
6
7
8
E
D
C
B
A

※ONE VOLTAGE: PB OR REC MODE, TWO VOLTAGES: PB AND (REC) MODES.

PS)


IC301
HT4539B
IC203
HT4727C
IC205
HT4708
IC201
HT4495
IC204
MSM6965RS
Q202
2SA844CD
Q206
2SA844CD
Q207
2SC2021S
Q208
2SA844CD
Q205
2SC2021S
Q201
2SC2021S
Q209
2SA952
Q213
2SC2021S
Q214
2SA844CD
Q215
2SA844CD
QR206
RTIN241S
QR207
RTIP241S
QR201
RTIN241S
QR205
RTIN241S
QR202
RTIN241S
D202,D203
1SS133x2
D302
1SS133
D201
1SS133
D301
1SS133
D303
1SS133
REC VIDEO
FEED BACK
SW 25Hz
RECORD CHROMA LEVEL
CCD LEVEL
PICTURE CONT.
CURRENT UP
TRICK PLAY
VIDEO
To SYSTEM CONTROL
To AUDIO/ REAR JACK
E - E
TP350
REC9V
Y/CHROMA P.C.B

DE, TWO VOLTAGES: PB AND (REC) MODES.

SCHEMATIC DIAGRAM	PAGE VT-125E/VT-135E
INTERNAL WIRING DIAGRAM	5-2/5-2
IF UNIT	5-4/5-4
TUNER UNIT	5-6/5-6
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VPS	5-10/5-10
TIMER/OPERATION SWITCH	5-13/5-13
SYSTEM CONTROL	5-19/5-51
REMOTE CONTROL	5-23/5-55
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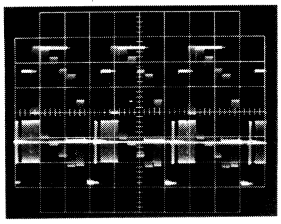
PREAMP	5-29/5-61
SERVO	5-38/5-70
Y/CHROMA	5-41/5-73
REGULATOR	5-50/5-82

4 5 6 7 8 9 10 11

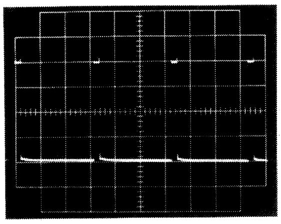
Y/CHROMA CIRCUIT WAVEFORMS (WELLENFORM)

[IC203] **(REC: Colour bar Video in/PB: Alignment tape)**

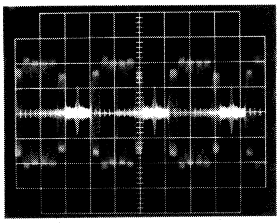
① PIN1 REC
0.1V/20μs. div.



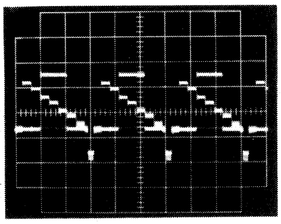
② PIN3 REC/PB
1V/20μs. div.



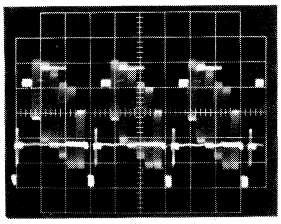
③ PIN5 PB
50mV/20μs. div.



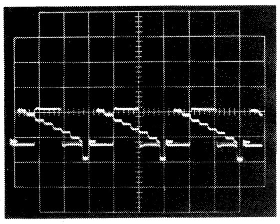
④ PIN7 REC/PB
0.1V/20μs. div.



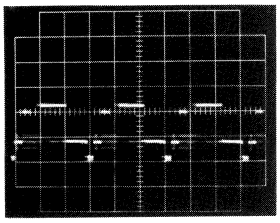
⑤ PIN8 REC
50mV/20μs. div.



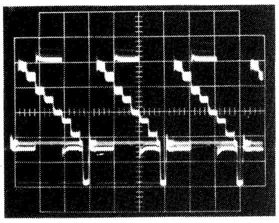
⑥ PIN8 PB
0.5V/20μs. div.



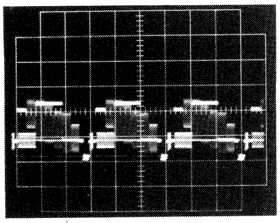
⑦ PIN9 REC
0.1V/20μs. div.



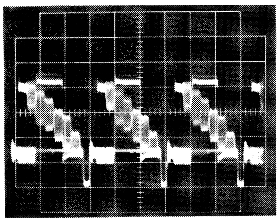
⑧ PIN9 PB
0.2V/20μs. div.



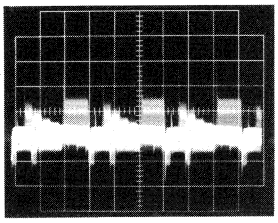
⑨ PIN11 REC
0.1V/20μs. div.



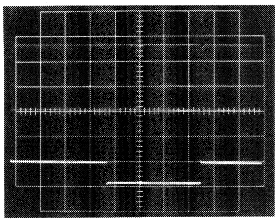
⑩ PIN11 PB
0.5V/20μs. div.



⑪ PIN14 PB
0.2V/20μs. div.

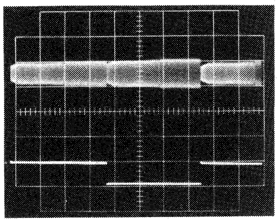


⑫ PIN16 PB
0.5V/5ms. div.



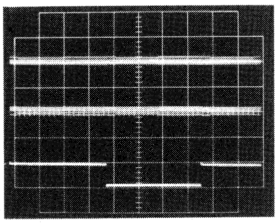
(SW25Hz: 5Vdiv.)

⑬ PIN18 PB
0.5V/5ms. div.



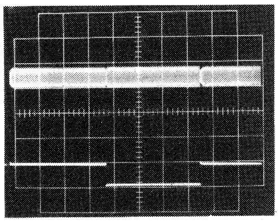
(SW25Hz: 5Vdiv.)

⑭ PIN19 REC
0.5V/5ms. div.



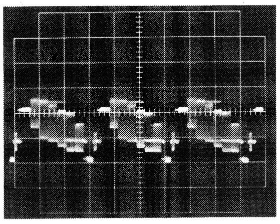
(SW25Hz: 5Vdiv.)

⑮ PIN20 PB
0.5V/5ms. div.

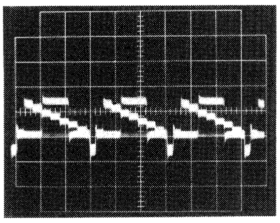


(SW25Hz: 5Vdiv.)

⑯ PIN27 REC
0.1V/20μs. div.

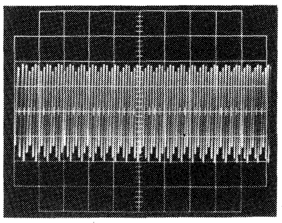


⑰ PIN27 PB
0.1V/20μs. div.

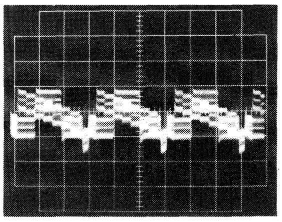


[IC204]

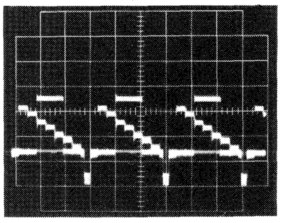
⑱ PIN3 PB
0.2V/0.5μs. div.



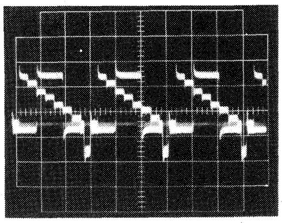
⑲ PIN4 PB
0.5V/20μs. div.



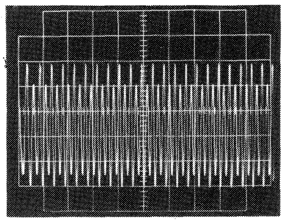
⑳ PIN6 REC
0.1V/20μs. div.



㉑ PIN6 PB
0.1V/20μs. div.

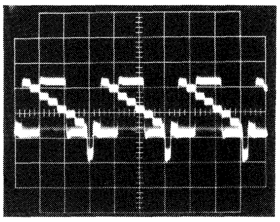


㉒ PIN7 PB
0.1V/0.5μs. div.

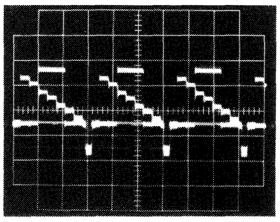


[IC205]

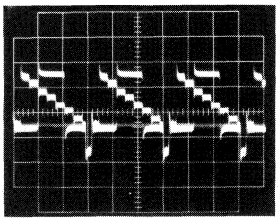
㉓ PIN3 PB
0.1V/20μs. div.



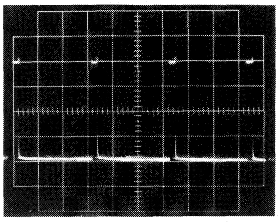
㉔ PIN 4 REC
10mV/20μs. div.



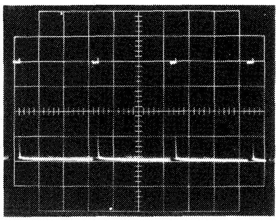
㉕ PIN4 PB
10mV/20μs. div.



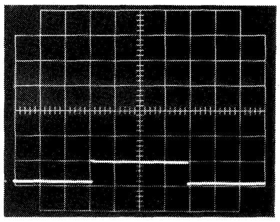
㉖ PIN9 REC/PB
1V/20μs. div.



㉗ PIN13 REC/PB
1V/20μs. div.

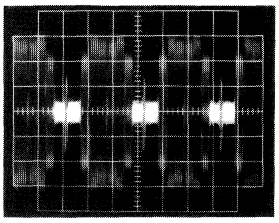


㉘ PIN16 REC
0.5V/5ms. div.

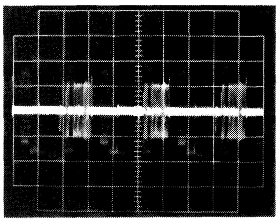


(SW25Hz: 5Vdiv.)

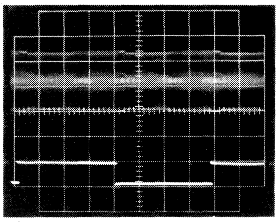
㉙ PIN18 REC
20mV/20μs. div.



㉚ PIN21 REC
50mV/20μs. div.

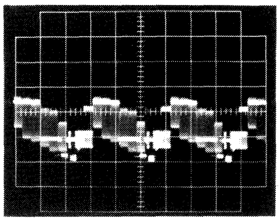


㉛ PIN22 REC
0.2V/5ms. div.

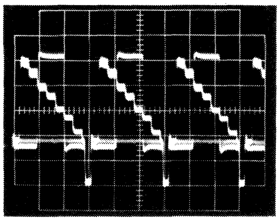


(SW25Hz: 5Vdiv.)

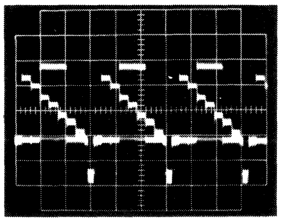
㉜ PIN24 REC
0.1V/20μs. div.



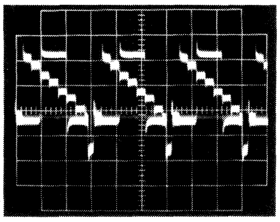
㉝ PIN24 PB
0.2V/20μs. div.



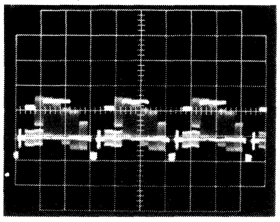
㉞ PIN25 REC
0.1V/20μs. div.



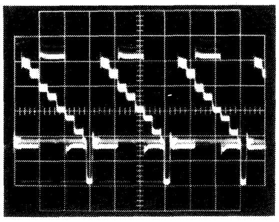
㉟ PIN25 PB
0.1V/20μs. div.



㊱ PIN27 REC
0.1V/20μs. div.

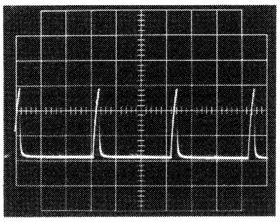


㊲ PIN27 PB
0.2V/20μs. div.

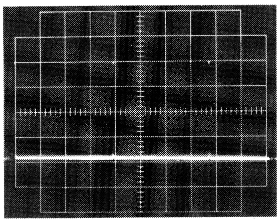


[IC301]

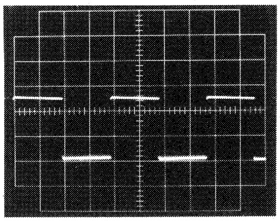
㊳ PIN1 REC
1V/20μs. div.



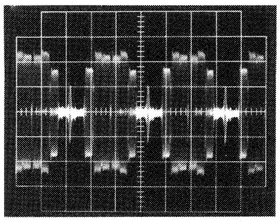
㊴ PIN1 PB
1V/0.5ms. div.



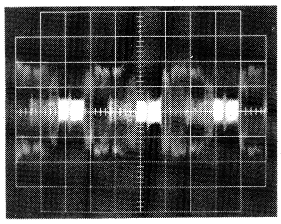
㊵ PIN5 REC/PB
0.5V/10ms. div.



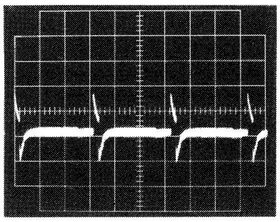
㊶ PIN6 REC
0.1V/20μs. div.



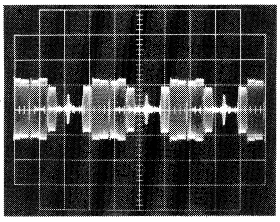
㊷ PIN6 PB
20mV/20μs. div.



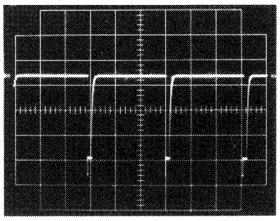
㊸ PIN7 REC/PB
0.1V/20μs. div.



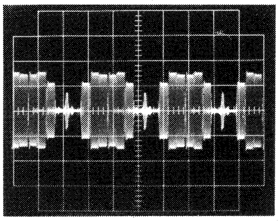
㊹ PIN8 REC/PB
50mV/20μs. div.



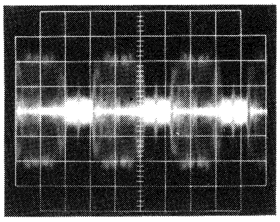
㊺ PIN9 REC/PB
1V/20μs. div.



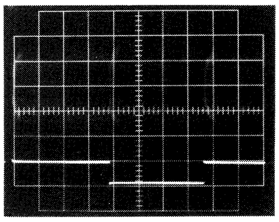
㊻ PIN11 REC
0.2V/20μs. div.



㊼ PIN11 PB
0.2V/20μs. div.

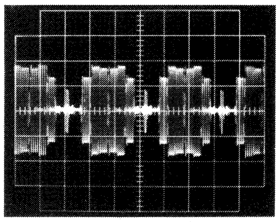


㊽ PIN12 PB
50mV/0.5ms. div.

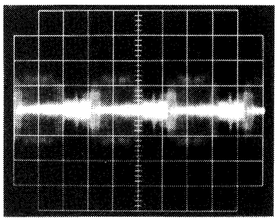


(SW25Hz: 5Vdiv.)

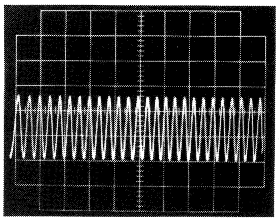
㊾ PIN14 REC
0.1V/20μs. div.



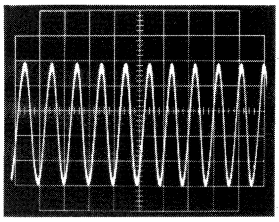
㊿ PIN14 PB
50mV/20μs. div.



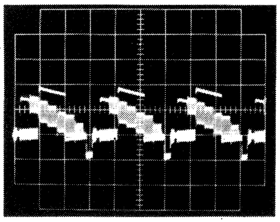
(51) PIN15 REC
0.1V/0.5μs. div.



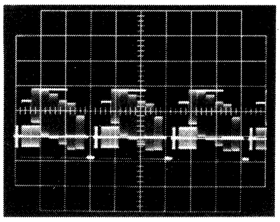
(52) PIN15 PB
50mV/0.2μs. div.



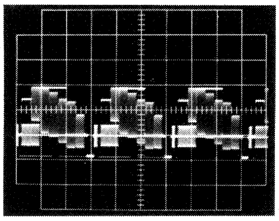
(53) PIN16 REC
0.2V/20μs. div.



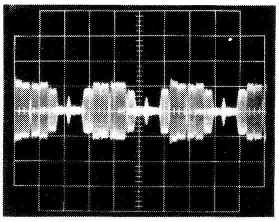
(54) PIN18 REC
0.2V/20μs. div.



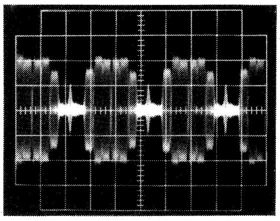
(55) PIN18 PB
0.2V/20μs. div.



(56) PIN20 PB
50mV/20μs. div.

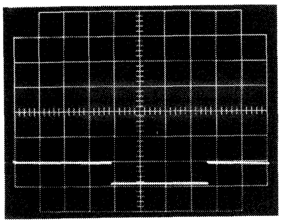


(57) PIN22 PB
0.1V/20μs. div.



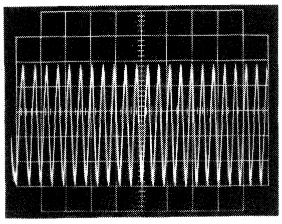
[IC301]

(58) PIN25 PB
0.1V/5ms. div.

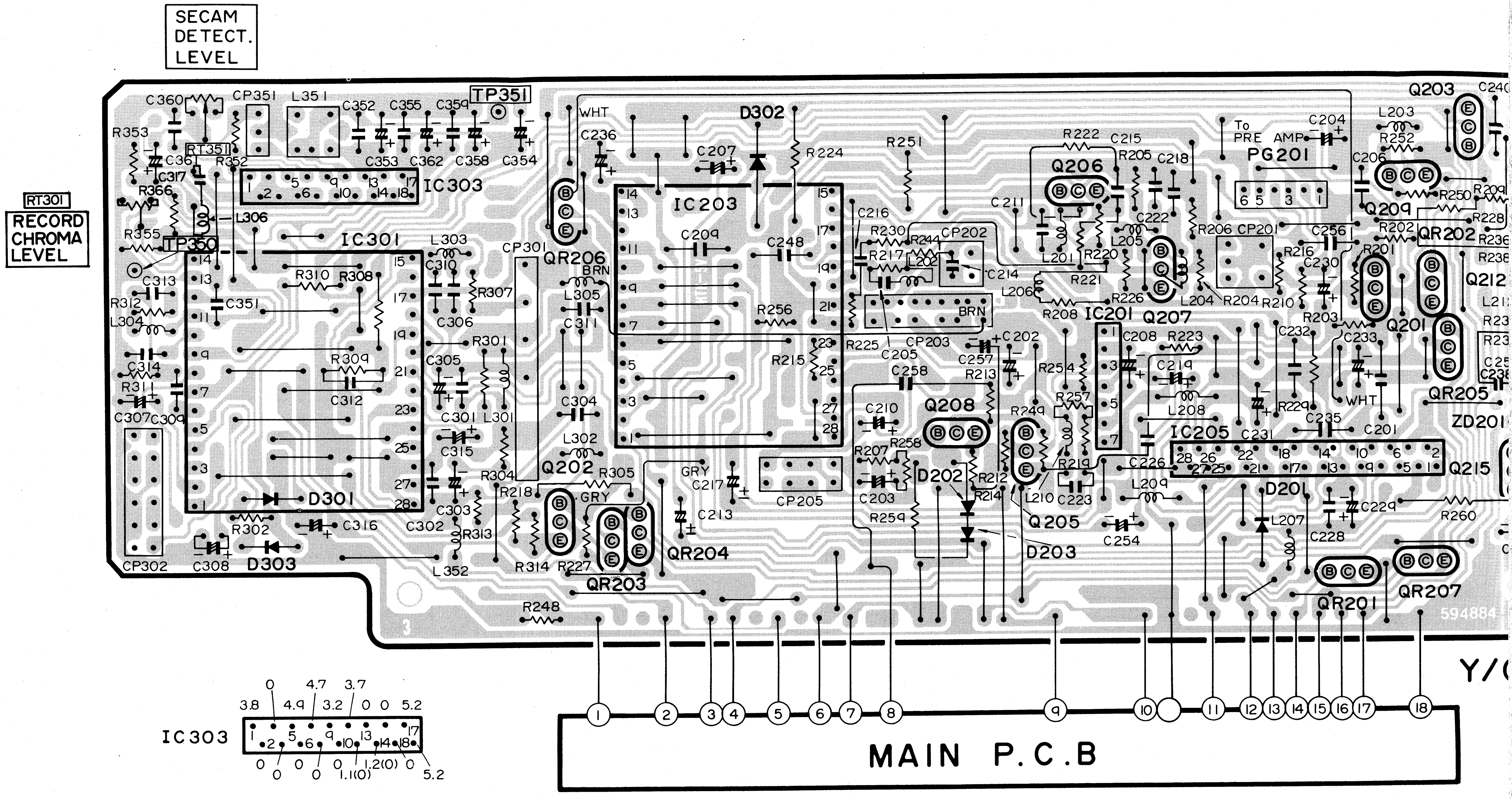


(SW25Hz: 5Vdiv.)

(59) PIN27 REC/PB
50mV/0.5μs. div.



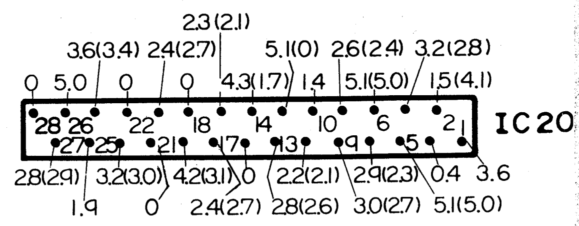
SCHEMATIC DIAGRAM	PAGE VT-125E/VT-135E
INTERNAL WIRING DIAGRAM	5-2/5-2
IF UNIT	5-4/5-4
TUNER UNIT	5-6/5-6
V·S TUNING	5-7/5-7
VPS	5-10/5-10
TIMER/OPERATION SWITCH	5-13/5-13
SYSTEM CONTROL	5-19/5-51
REMOTE CONTROL	5-23/5-55
AUDIO/REAR JACK	5-25/5-57
RF CONVERTER	5-28/5-60
PREAMP	5-29/5-61
SERVO	5-38/5-70
Y/CHROMA	5-41/5-73
REGULATOR	5-50/5-82


SECAM DETECT. LEVEL
RT301
RECORD CHROMA LEVEL
TP351
TP350
RT351
IC303
IC301
IC203
IC201
IC205
D302
D301
D303
D201
D202
D203
Q203
Q206
Q207
Q208
Q209
Q201
Q202
Q205
Q212
Q215
QR201
QR202
QR203
QR204
QR205
QR206
QR207
ZD201
CP301
CP302
CP351
CP201
CP202
CP203
CP205
PG201
To PRE AMP
WHT
BRN
GRY
594884
Y/(
MAIN P.C.B
IC303
3.8
0
4.9
4.7
3.2
3.7
0
0
5.2
0
0
0
0
0
1.1(0)
1.2(0)
0
5.2

	IC301		
14	0	3.5	15
13	0	0.1 (0)	
	4.5	5.1 (0)	17
11	3.0	3.6	
	0.6	2.3	19
9	4.7	0	
	0	5.2	21
7	0	3.8 (4.6)	
	3.3 (3.2)	2.9 (2.4)	23
5	0.7	2.9	
	2.8 (2.3)	4.2	25
3	2.2	0	
	2.7 (2.9)	1.4	27
1	0.9	0	28

	IC203		
14	4.3 (1.7)	0	15
13	2.8 (2.6)	2.3 (2.1)	
	5.1 (0)	2.4 (2.7)	17
11	2.2 (2.1)	0	
	1.4	4.2 (3.1)	19
9	3.0 (2.7)	3.3 (3.1)	
	2.6 (2.4)	0	21
7	2.9 (2.3)	0	
	5.1 (5.0)	3.2 (3.0)	23
5	0	3.3	
	3.2 (2.8)	1.9	25
3	0.4	2.6 (2.5)	
	1.5 (4.1)	2.8 (2.4)	27
1	3.6	0.1 (0)	28

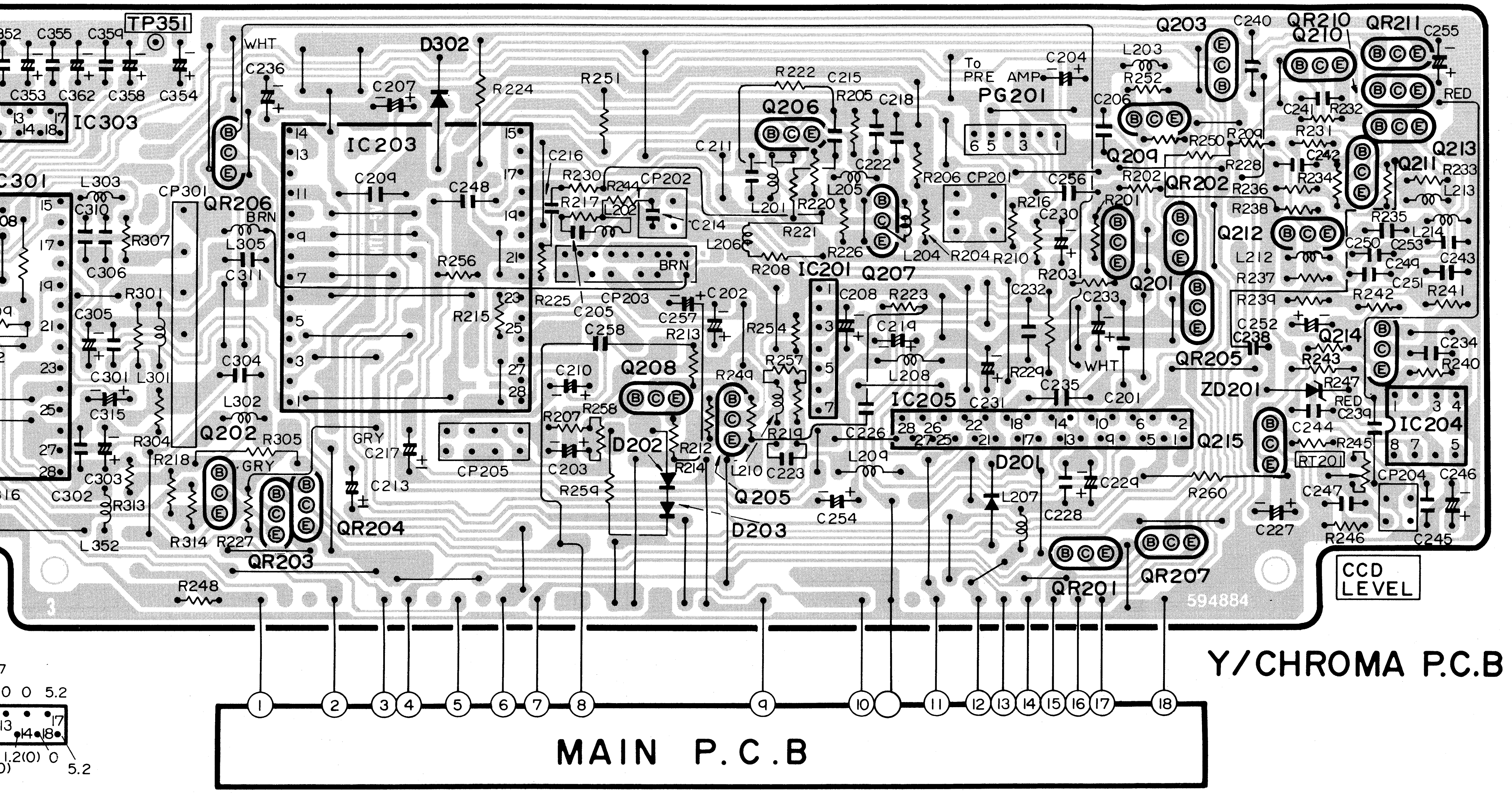
IC201	
0	1
1.7	
1.1	3
2.4	
2.6	5
3.0	
5.0	7

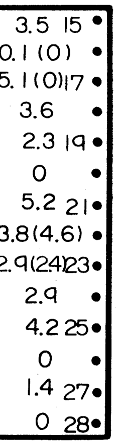

IC20
0
5.0
3.6(3.4)
0
2.4(2.7)
0
2.3(2.1)
4.3(1.7)
5.1(0)
1.4
2.6(2.4)
5.1(5.0)
3.2(2.8)
1.5(4.1)
28
26
22
18
14
10
6
2
1
27
25
21
17
13
9
5
2.8(2.9)
1.9
3.2(3.0)
0
4.2(3.1)
0
2.4(2.7)
2.2(2.1)
2.8(2.6)
2.9(2.3)
3.0(2.7)
0.4
5.1(5.0)
3.6

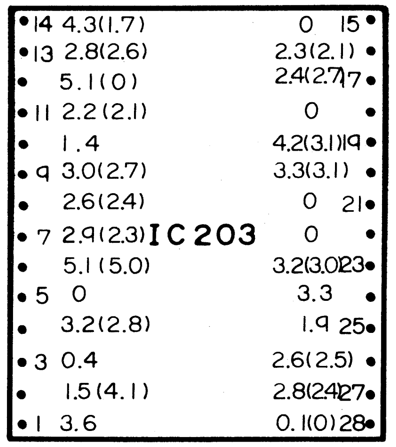
※ ONE VOLTAGE : PB OR REC MO

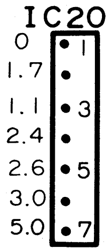
TWO VOLTAGES : PB AND (REC

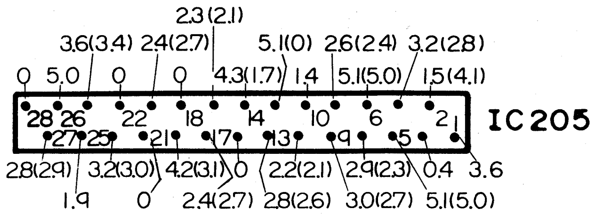
Y/CHROMA P.C.B

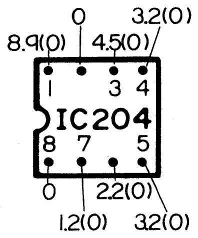

TP351
IC303
IC301
IC203
IC201
IC205
IC204
D302
D201
D202
D203
ZD201
Q202
Q203
Q205
Q206
Q207
Q208
Q209
Q210
Q211
Q212
Q213
Q214
Q215
Q201
QR201
QR202
QR203
QR204
QR205
QR206
QR207
QR210
QR211
CP201
CP202
CP203
CP204
CP205
CP301
PG201
To PRE AMP
WHT
BRN
GRY
RED
RT201
CCD LEVEL
594884
MAIN P.C.B
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
0 0 5.2
1.2(0) 0
5.2


3.5 15
0.1 (0)
5.1(0) 17
3.6
2.3 19
0
5.2 21
3.8(4.6)
2.9(2.4) 23
2.9
4.2 25
0
1.4 27
0 28


IC203
14 4.3(1.7)
13 2.8(2.6)
5.1(0)
11 2.2(2.1)
1.4
9 3.0(2.7)
2.6(2.4)
7 2.9(2.3)
5.1(5.0)
5 0
3.2(2.8)
3 0.4
1.5(4.1)
1 3.6
0 15
2.3(2.1)
2.4(2.7) 17
0
4.2(3.1) 19
3.3(3.1)
0 21
0
3.2(3.0) 23
3.3
1.9 25
2.6(2.5)
2.8(2.4) 27
0.1(0) 28

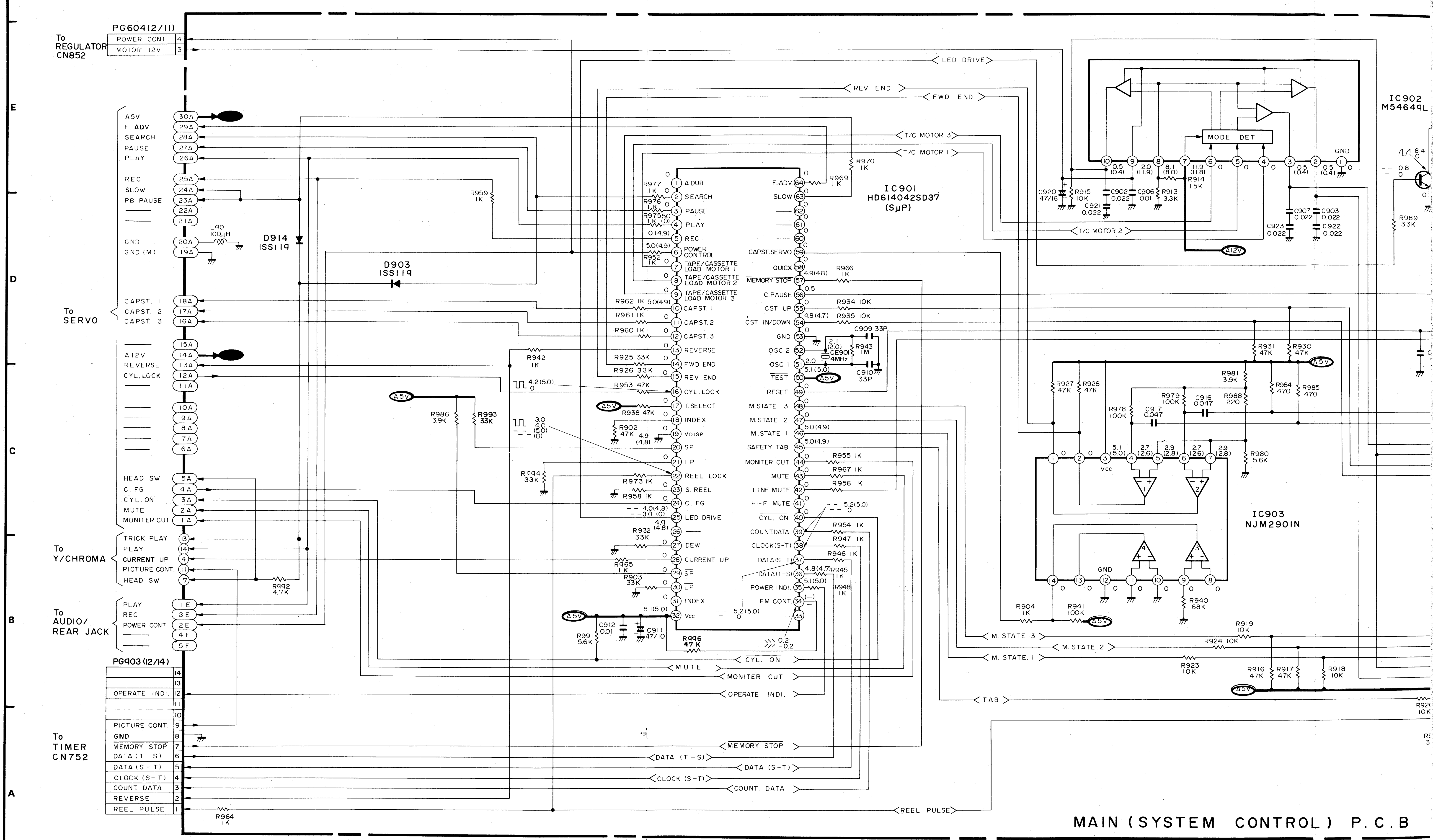

IC201
0
1.7
1.1
2.4
2.6
3.0
5.0
1
3
5
7


IC205
2.3(2.1)
3.6(3.4)
2.4(2.7)
5.1(0)
2.6(2.4)
3.2(2.8)
0
5.0
0
0
4.3(1.7)
1.4
5.1(5.0)
1.5(4.1)
28
26
22
18
14
10
6
2
1
27
25
21
17
13
9
5
2.8(2.9)
3.2(3.0)
4.2(3.1)
0
2.2(2.1)
2.9(2.3)
0.4
3.6
1.9
0
2.4(2.7)
2.8(2.6)
3.0(2.7)
5.1(5.0)


IC204
0
3.2(0)
8.9(0)
4.5(0)
1
3
4
8
7
5
0
2.2(0)
1.2(0)
3.2(0)

※ ONE VOLTAGE : PB OR REC MODE,
TWO VOLTAGES : PB AND (REC) MODES.

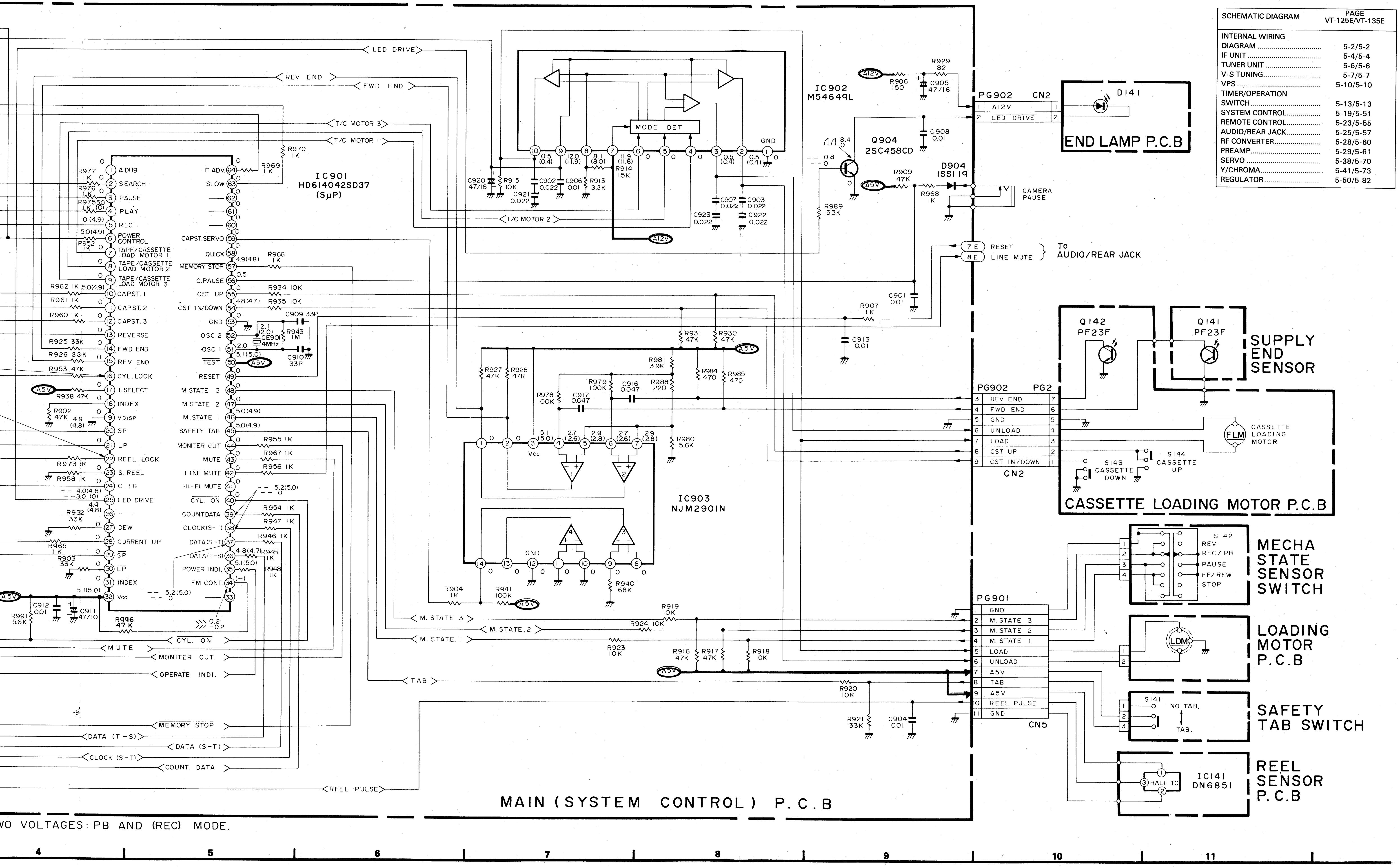
SYSTEM CONTROL (SYSTEMREGELUNG) VT-135E (VPS)


To REGULATOR CN852
PG604(2/11)
POWER CONT. 4
MOTOR 12V 3
To SERVO
A5V 30A
F. ADV 29A
SEARCH 28A
PAUSE 27A
PLAY 26A
REC 25A
SLOW 24A
PB PAUSE 23A
22A
21A
GND 20A
GND (M) 19A
L901 100μH
D914 ISS119
D903 ISS119
CAPST. 1 18A
CAPST. 2 17A
CAPST. 3 16A
15A
A12V 14A
REVERSE 13A
CYL. LOCK 12A
11A
10A
9A
8A
7A
6A
HEAD SW 5A
C. FG 4A
CYL. ON 3A
MUTE 2A
MONITER CUT 1A
To Y/CHROMA
TRICK PLAY 13
PLAY 14
CURRENT UP 4
PICTURE CONT. 11
HEAD SW 17
R992 4.7K
To AUDIO/ REAR JACK
PLAY 1E
REC 3E
POWER CONT. 2E
4E
5E
PG903 (12/14)
To TIMER CN752
OPERATE INDI. 12
PICTURE CONT. 9
GND 8
MEMORY STOP 7
DATA (T-S) 6
DATA (S-T) 5
CLOCK (S-T) 4
COUNT. DATA 3
REVERSE 2
REEL PULSE 1
R964 1K
IC901 HD614042SD37 (SμP)
1 A.DUB
2 SEARCH
3 PAUSE
4 PLAY
5 REC
6 POWER CONTROL
7 TAPE/CASSETTE LOAD MOTOR 1
8 TAPE/CASSETTE LOAD MOTOR 2
9 TAPE/CASSETTE LOAD MOTOR 3
10 CAPST. 1
11 CAPST. 2
12 CAPST. 3
13 REVERSE
14 FWD END
15 REV END
16 CYL. LOCK
17 T. SELECT
18 INDEX
19 VDISP
20 SP
21 LP
22 REEL LOCK
23 S. REEL
24 C. FG
25 LED DRIVE
26 —
27 DEW
28 CURRENT UP
29 SP
30 LP
31 INDEX
32 Vcc
33
34 FM CONT. (−)
35 POWER INDI.
36 DATA(T-S)
37 DATA(S-T)
38 CLOCK(S-T)
39 COUNTDATA
40 CYL. ON
41 Hi-Fi MUTE
42 LINE MUTE
43 MUTE
44 MONITER CUT
45 SAFETY TAB
46 M. STATE 1
47 M. STATE 2
48 M. STATE 3
49 RESET
50 TEST
51 OSC 1
52 OSC 2
53 GND
54 CST IN/DOWN
55 CST UP
56 C. PAUSE
57 MEMORY STOP
58 QUICK
59 CAPST. SERVO
60
61
62
63 SLOW
64 F. ADV
R977 1K
R976 1K
R975 1K
R952 1K
R962 1K
R961 1K
R960 1K
R925 33K
R926 33K
R953 47K
R938 47K
R902 47K
R932 33K
R973 1K
R958 1K
R465 1K
R903 33K
R942 1K
R959 1K
R986 3.9K
R993 33K
R994 33K
R991 5.6K
C912 0.01
C911 47/10
R996 47K
R969 1K
R970 1K
R966 1K
R934 10K
R935 10K
C909 33P
R943 1M
CE901 4MHz
C910 33P
R955 1K
R967 1K
R956 1K
R954 1K
R947 1K
R946 1K
R945 1K
R948 1K
A5V
A12V
LED DRIVE
REV END
FWD END
T/C MOTOR 3
T/C MOTOR 1
T/C MOTOR 2
IC902 M54649L
MODE DET
GND
C920 47/16
R915 10K
C921 0.022
C902 0.022
C906 0.01
R913 3.3K
R914 1.5K
C907 0.022
C903 0.022
C923 0.022
C922 0.022
R989 3.3K
IC903 NJM2901N
R931 47K
R930 47K
R981 3.9K
R984 470
R985 470
R927 47K
R928 47K
R978 100K
R979 100K
C917 0.047
C916 0.047
R988 220
R980 5.6K
Vcc
GND
R940 68K
R904 1K
R941 100K
R919 10K
R924 10K
R923 10K
R916 47K
R917 47K
R918 10K
M. STATE 3
M. STATE 2
M. STATE 1
TAB
CYL. ON
MUTE
MONITER CUT
OPERATE INDI.
MEMORY STOP
DATA (T-S)
DATA (S-T)
CLOCK (S-T)
COUNT. DATA
REEL PULSE
E
D
C
B
A

MAIN (SYSTEM CONTROL) P.C.B

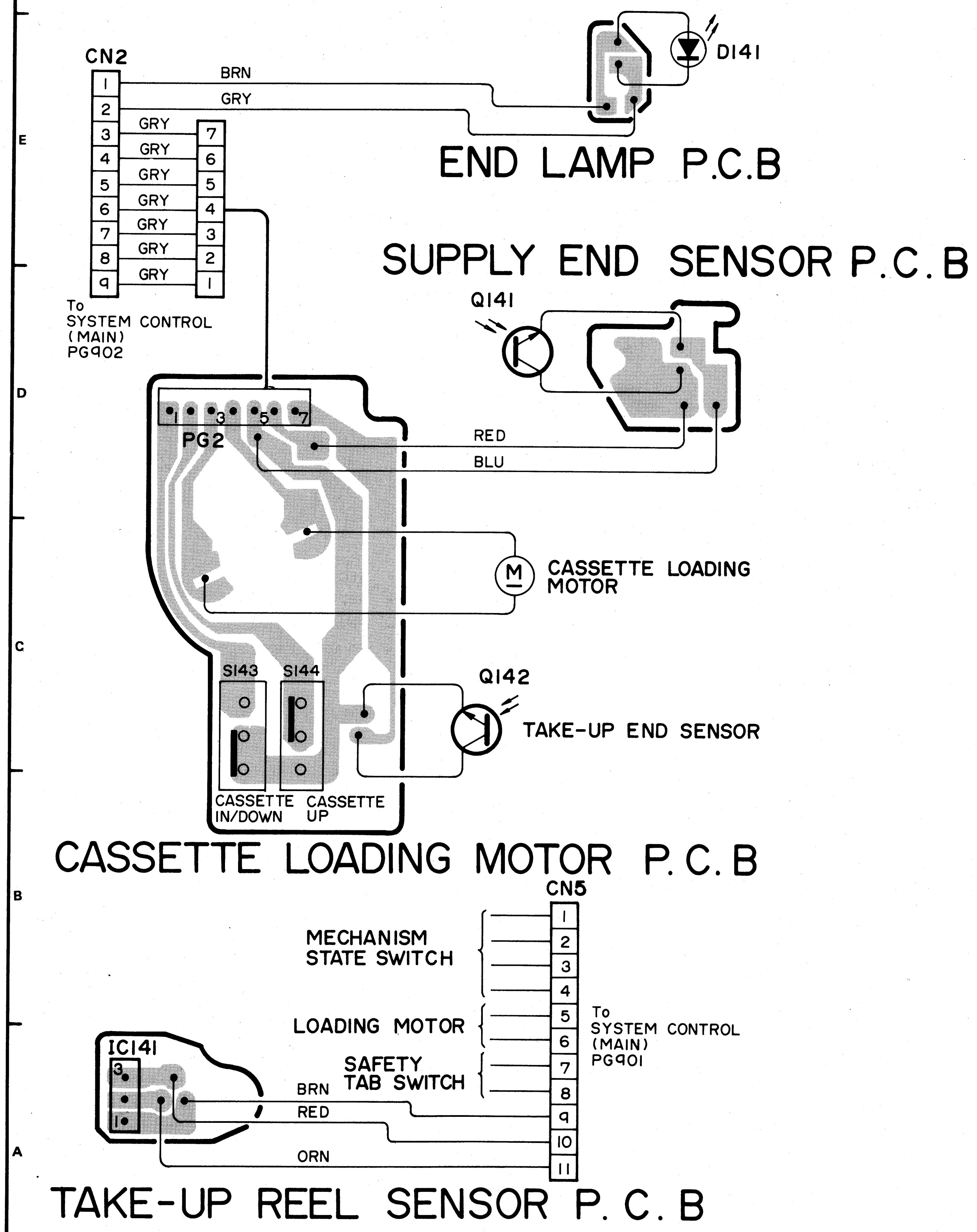
※ ONE VOLTAGE: PB OR REC MODE, TWO VOLTAGES: PB AND (REC) MODE.

SCHEMATIC DIAGRAM	PAGE VT-125E/VT-135E
INTERNAL WIRING DIAGRAM	5-2/5-2
IF UNIT	5-4/5-4
TUNER UNIT	5-6/5-6
V-S TUNING	5-7/5-7
VPS	5-10/5-10
TIMER/OPERATION SWITCH	5-13/5-13
SYSTEM CONTROL	5-19/5-51
REMOTE CONTROL	5-23/5-55
AUDIO/REAR JACK	5-25/5-57
RF CONVERTER	5-28/5-60
PREAMP	5-29/5-61
SERVO	5-38/5-70
Y/CHROMA	5-41/5-73
REGULATOR	5-50/5-82


IC901
HD614042SD37
(SμP)
A.DUB
SEARCH
PAUSE
PLAY
REC
POWER CONTROL
TAPE/CASSETTE LOAD MOTOR 1
TAPE/CASSETTE LOAD MOTOR 2
TAPE/CASSETTE LOAD MOTOR 3
CAPST. 1
CAPST. 2
CAPST. 3
REVERSE
FWD END
REV END
CYL. LOCK
T. SELECT
INDEX
VDISP
SP
LP
REEL LOCK
S. REEL
C. FG
LED DRIVE
DEW
CURRENT UP
SP
LP
INDEX
Vcc
F. ADV.
SLOW
CAPST. SERVO
QUICK
MEMORY STOP
C. PAUSE
CST UP
CST IN/DOWN
GND
OSC 2
OSC 1
TEST
RESET
M. STATE 3
M. STATE 2
M. STATE 1
SAFETY TAB
MONITER CUT
MUTE
LINE MUTE
Hi-Fi MUTE
CYL. ON
COUNTDATA
CLOCK(S-T)
DATA(S-T)
DATA(T-S)
POWER INDI.
FM CONT.
CE901 4MHz
IC902
M54649L
MODE DET
GND
IC903
NJM2901N
Vcc
GND
Q904
2SC458CD
D904
1SS119
CAMERA PAUSE
7E RESET
8E LINE MUTE
To AUDIO/REAR JACK
A12V
A5V
LED DRIVE
REV END
FWD END
T/C MOTOR 3
T/C MOTOR 1
T/C MOTOR 2
M. STATE 3
M. STATE 2
M. STATE 1
TAB
MUTE
MONITER CUT
OPERATE INDI.
CYL. ON
MEMORY STOP
DATA (T-S)
DATA (S-T)
CLOCK (S-T)
COUNT. DATA
REEL PULSE
PG902 CN2
A12V
LED DRIVE
D141
END LAMP P.C.B
Q142 PF23F
Q141 PF23F
SUPPLY END SENSOR
PG902 PG2
REV END
FWD END
GND
UNLOAD
LOAD
CST UP
CST IN/DOWN
CN2
CASSETTE LOADING MOTOR
FLM
S143 CASSETTE DOWN
S144 CASSETTE UP
CASSETTE LOADING MOTOR P.C.B
S142
REV
REC/PB
PAUSE
FF/REW
STOP
MECHA STATE SENSOR SWITCH
PG901
GND
M. STATE 3
M. STATE 2
M. STATE 1
LOAD
UNLOAD
A5V
TAB
A5V
REEL PULSE
GND
CN5
LDM
LOADING MOTOR P.C.B
S141
NO TAB.
TAB.
SAFETY TAB SWITCH
IC141 DN6851
HALL IC
REEL SENSOR P.C.B
MAIN (SYSTEM CONTROL) P.C.B
4
5
6
7
8
9
10
11

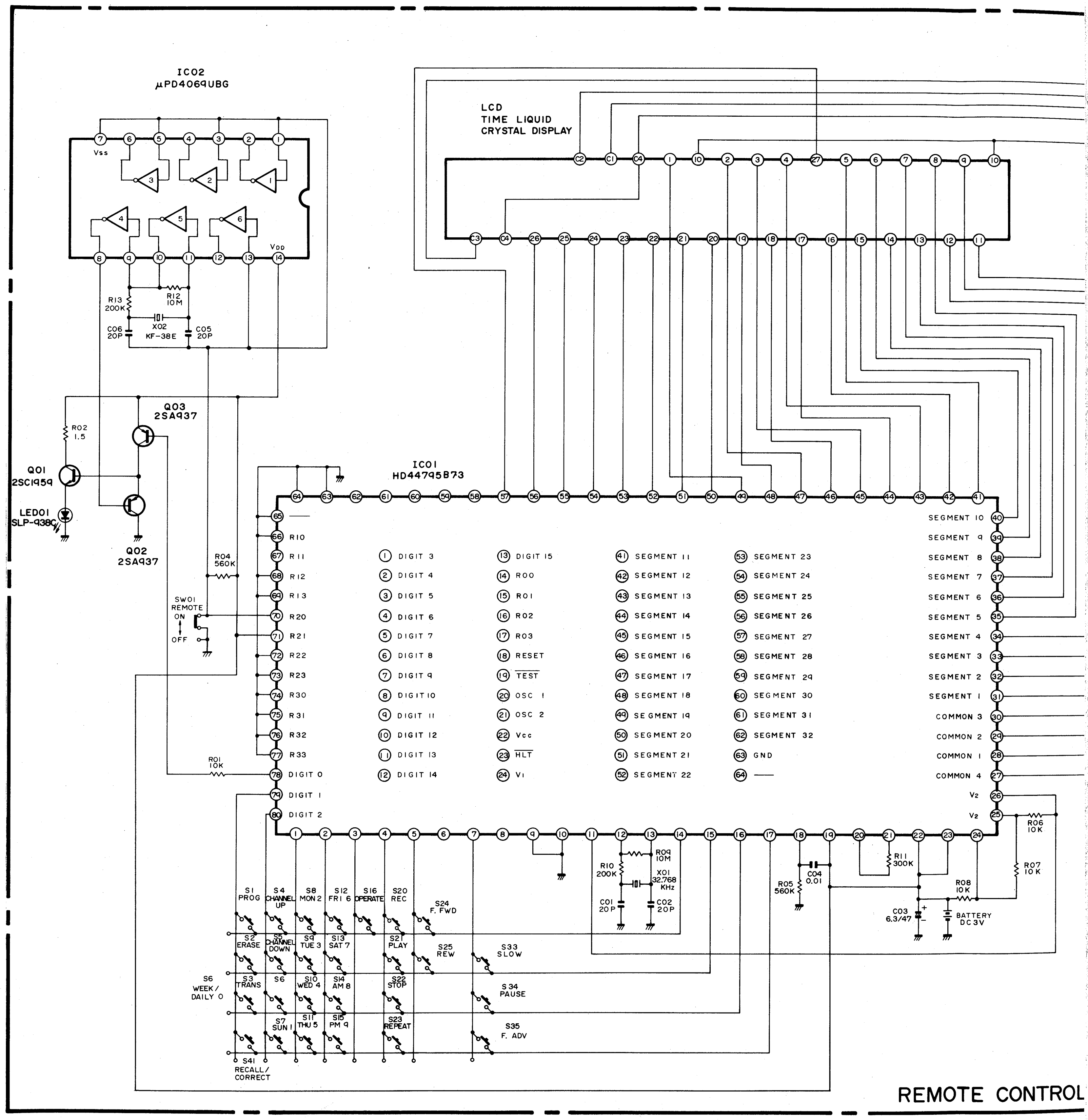
WO VOLTAGES: PB AND (REC) MODE.

PERIPHERAL BOARD (PERIPHERIE-LEITERPLATTE)


CN2
BRN
GRY
GRY
GRY
GRY
GRY
GRY
GRY
GRY
To
SYSTEM CONTROL
(MAIN)
PG902
D141
END LAMP P.C.B
SUPPLY END SENSOR P.C.B
Q141
PG2
RED
BLU
M
CASSETTE LOADING
MOTOR
S143
S144
Q142
TAKE-UP END SENSOR
CASSETTE
IN/DOWN
CASSETTE
UP
CASSETTE LOADING MOTOR P.C.B
CN5
MECHANISM
STATE SWITCH
LOADING MOTOR
SAFETY
TAB SWITCH
To
SYSTEM CONTROL
(MAIN)
PG901
IC141
BRN
RED
ORN
TAKE-UP REEL SENSOR P.C.B

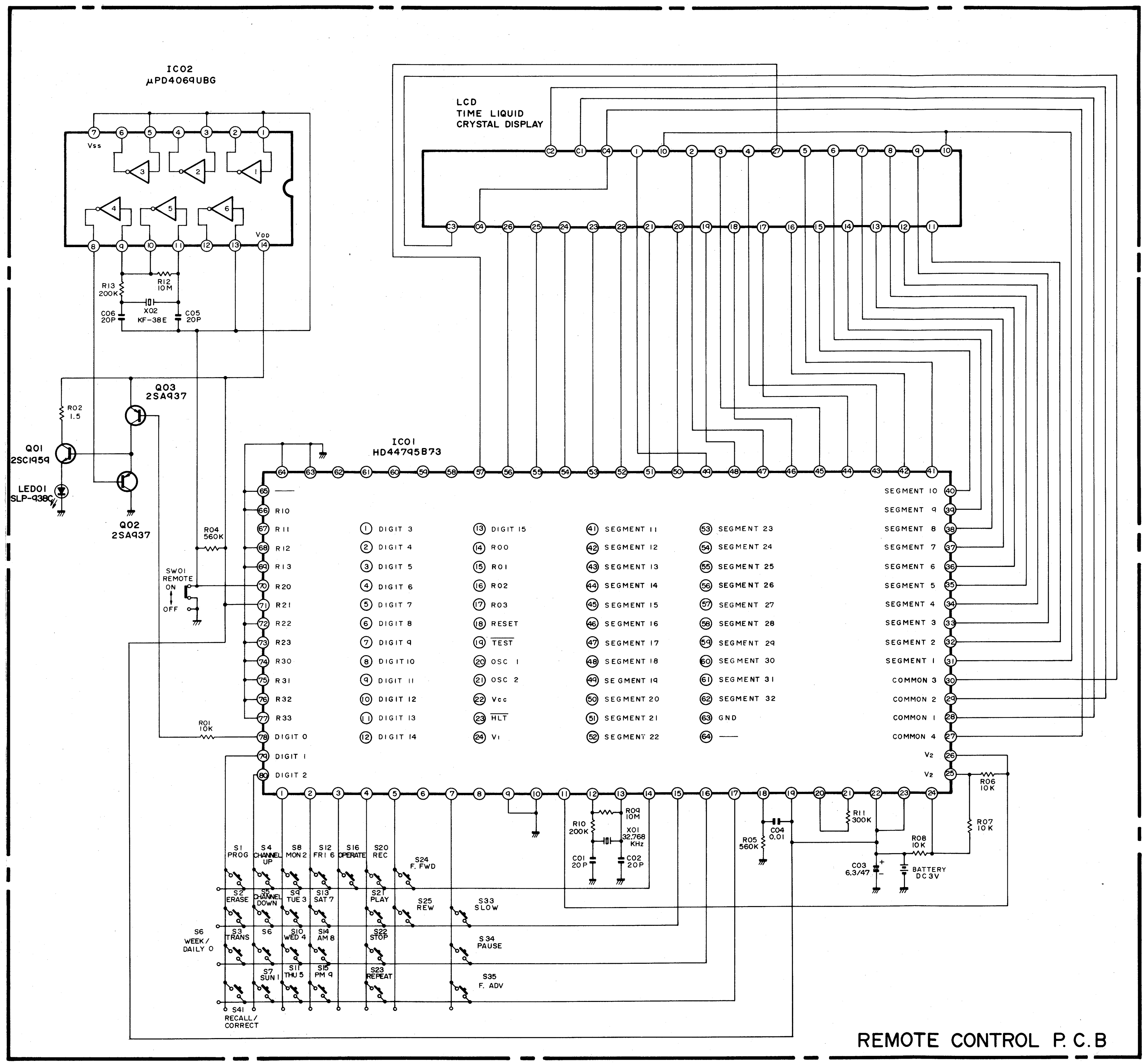
REMOTE CONTROL (FERNBEDIENUNG)

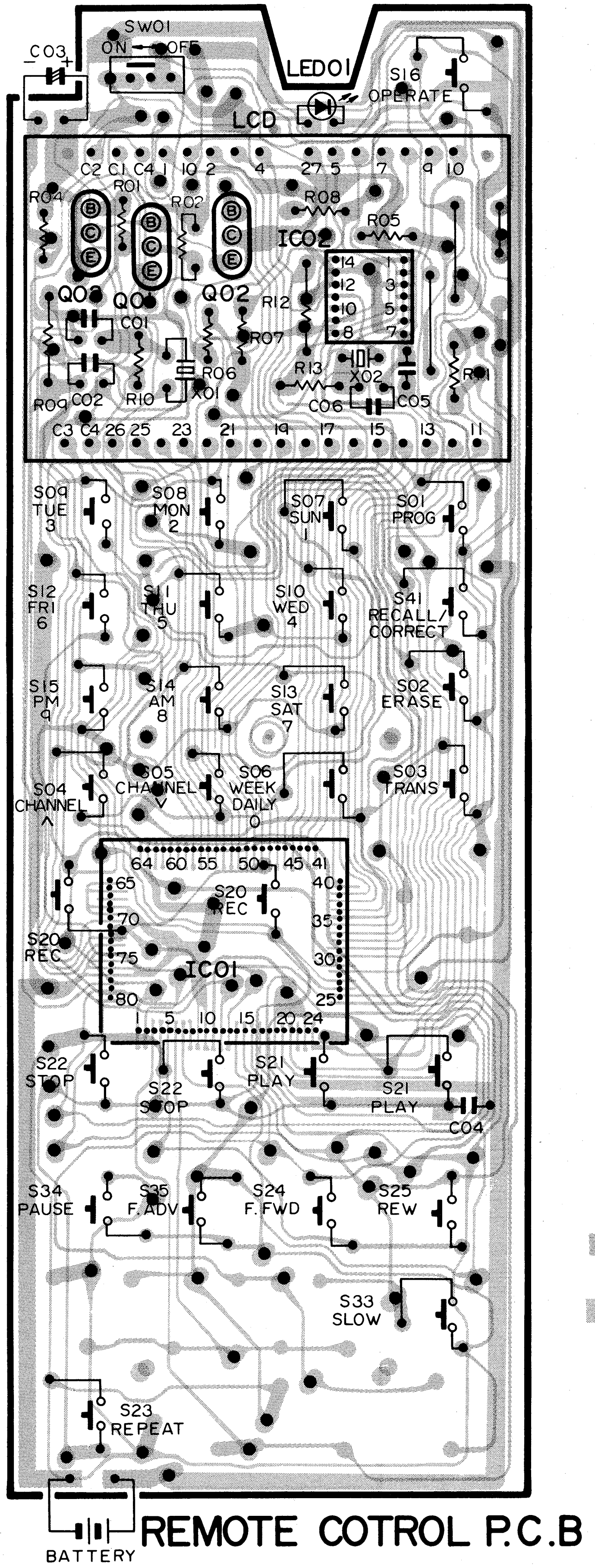
VT-135E (VPS)


IC02
μPD4069UBG
Vss
VDD
R13
200K
R12
10M
C06
20P
X02
KF-38E
C05
20P
Q03
2SA937
R02
1.5
Q01
2SC1959
LED01
SLP-938C
Q02
2SA937
R04
560K
SW01
REMOTE
ON
OFF
R01
10K
LCD
TIME LIQUID
CRYSTAL DISPLAY
IC01
HD44795B73
(65) —
(66) R10
(67) R11
(68) R12
(69) R13
(70) R20
(71) R21
(72) R22
(73) R23
(74) R30
(75) R31
(76) R32
(77) R33
(78) DIGIT 0
(79) DIGIT 1
(80) DIGIT 2
① DIGIT 3
② DIGIT 4
③ DIGIT 5
④ DIGIT 6
⑤ DIGIT 7
⑥ DIGIT 8
⑦ DIGIT 9
⑧ DIGIT 10
⑨ DIGIT 11
⑩ DIGIT 12
⑪ DIGIT 13
⑫ DIGIT 14
⑬ DIGIT 15
⑭ R00
⑮ R01
⑯ R02
⑰ R03
⑱ RESET
⑲ TEST
⑳ OSC 1
㉑ OSC 2
㉒ Vcc
㉓ HLT
㉔ V1
㊶ SEGMENT 11
㊷ SEGMENT 12
㊸ SEGMENT 13
㊹ SEGMENT 14
㊺ SEGMENT 15
㊻ SEGMENT 16
㊼ SEGMENT 17
㊽ SEGMENT 18
㊾ SEGMENT 19
㊿ SEGMENT 20
(51) SEGMENT 21
(52) SEGMENT 22
(53) SEGMENT 23
(54) SEGMENT 24
(55) SEGMENT 25
(56) SEGMENT 26
(57) SEGMENT 27
(58) SEGMENT 28
(59) SEGMENT 29
(60) SEGMENT 30
(61) SEGMENT 31
(62) SEGMENT 32
(63) GND
(64) —
SEGMENT 10 ㊵
SEGMENT 9 ㊴
SEGMENT 8 ㊳
SEGMENT 7 ㊲
SEGMENT 6 ㊱
SEGMENT 5 ㉟
SEGMENT 4 ㉞
SEGMENT 3 ㉝
SEGMENT 2 ㉜
SEGMENT 1 ㉛
COMMON 3 ㉚
COMMON 2 ㉙
COMMON 1 ㉘
COMMON 4 ㉗
V2 ㉖
V2 ㉕
R06
10K
R07
10K
R08
10K
R09
10M
R10
200K
X01
32.768
KHz
C01
20P
C02
20P
R05
560K
C04
0.01
R11
300K
C03
6.3/47
BATTERY
DC3V
S1
PROG
S4
CHANNEL
UP
S8
MON 2
S12
FRI 6
S16
OPERATE
S20
REC
S24
F. FWD
S2
ERASE
S5
CHANNEL
DOWN
S9
TUE 3
S13
SAT 7
S21
PLAY
S25
REW
S33
SLOW
S6
WEEK/
DAILY 0
S3
TRANS
S6
S10
WED 4
S14
AM 8
S22
STOP
S34
PAUSE
S7
SUN 1
S11
THU 5
S15
PM 9
S23
REPEAT
S35
F. ADV
S41
RECALL/
CORRECT
REMOTE CONTROL

REMOTE CONTROL (FERNBEDIENUNG) VT-135E (VPS)

R P.C.B


IC02
µPD4069UBG
Vss
VDD
R13 200K
R12 10M
X02 KF-38E
C06 20P
C05 20P
R02 1.5
Q03 2SA937
Q01 2SC1959
LED01 SLP-938C
Q02 2SA937
R04 560K
SW01 REMOTE ON OFF
R01 10K
LCD TIME LIQUID CRYSTAL DISPLAY
IC01 HD44795873
① DIGIT 3
② DIGIT 4
③ DIGIT 5
④ DIGIT 6
⑤ DIGIT 7
⑥ DIGIT 8
⑦ DIGIT 9
⑧ DIGIT 10
⑨ DIGIT 11
⑩ DIGIT 12
⑪ DIGIT 13
⑫ DIGIT 14
⑬ DIGIT 15
⑭ R00
⑮ R01
⑯ R02
⑰ R03
⑱ RESET
⑲ TEST
⑳ OSC 1
㉑ OSC 2
㉒ Vcc
㉓ HLT
㉔ V1
㊶ SEGMENT 11
㊷ SEGMENT 12
㊸ SEGMENT 13
㊹ SEGMENT 14
㊺ SEGMENT 15
㊻ SEGMENT 16
㊼ SEGMENT 17
㊽ SEGMENT 18
㊾ SEGMENT 19
㊿ SEGMENT 20
(51) SEGMENT 21
(52) SEGMENT 22
(53) SEGMENT 23
(54) SEGMENT 24
(55) SEGMENT 25
(56) SEGMENT 26
(57) SEGMENT 27
(58) SEGMENT 28
(59) SEGMENT 29
(60) SEGMENT 30
(61) SEGMENT 31
(62) SEGMENT 32
(63) GND
(64) —
R10 R11 R12 R13 R20 R21 R22 R23 R30 R31 R32 R33
DIGIT 0 DIGIT 1 DIGIT 2
SEGMENT 10 SEGMENT 9 SEGMENT 8 SEGMENT 7 SEGMENT 6 SEGMENT 5 SEGMENT 4 SEGMENT 3 SEGMENT 2 SEGMENT 1
COMMON 3 COMMON 2 COMMON 1 COMMON 4
V2 V2
R06 10K
R07 10K
R10 200K
R09 10M
X01 32.768 KHz
C01 20P
C02 20P
R05 560K
C04 0.01
R11 300K
R08 10K
C03 6.3/47
BATTERY DC 3V
S1 PROG
S4 CHANNEL UP
S8 MON 2
S12 FRI 6
S16 OPERATE
S20 REC
S24 F. FWD
S2 ERASE
S5 CHANNEL DOWN
S9 TUE 3
S13 SAT 7
S21 PLAY
S25 REW
S33 SLOW
S6 WEEK/DAILY 0
S3 TRANS
S10 WED 4
S14 AM 8
S22 STOP
S34 PAUSE
S7 SUN 1
S11 THU 5
S15 PM 9
S23 REPEAT
S35 F. ADV
S41 RECALL/CORRECT
REMOTE CONTROL P.C.B


SW01 ON OFF
C03
LED01
S16 OPERATE
LCD
R04 R01 R02 R08 R05
IC02
Q03 Q01 Q02
R12 R07 R13 R06 R09 R10 R11
C01 C02 C06 C05
X01 X02
S09 TUE 3
S08 MON 2
S07 SUN 1
S01 PROG
S12 FRI 6
S11 THU 5
S10 WED 4
S41 RECALL/CORRECT
S15 PM 9
S14 AM 8
S13 SAT 7
S02 ERASE
S04 CHANNEL ∧
S05 CHANNEL ∨
S06 WEEK DAILY 0
S03 TRANS
S20 REC
IC01
S22 STOP
S21 PLAY
C04
S34 PAUSE
S35 F. ADV
S24 F. FWD
S25 REW
S33 SLOW
S23 REPEAT
BATTERY
REMOTE COTROL P.C.B

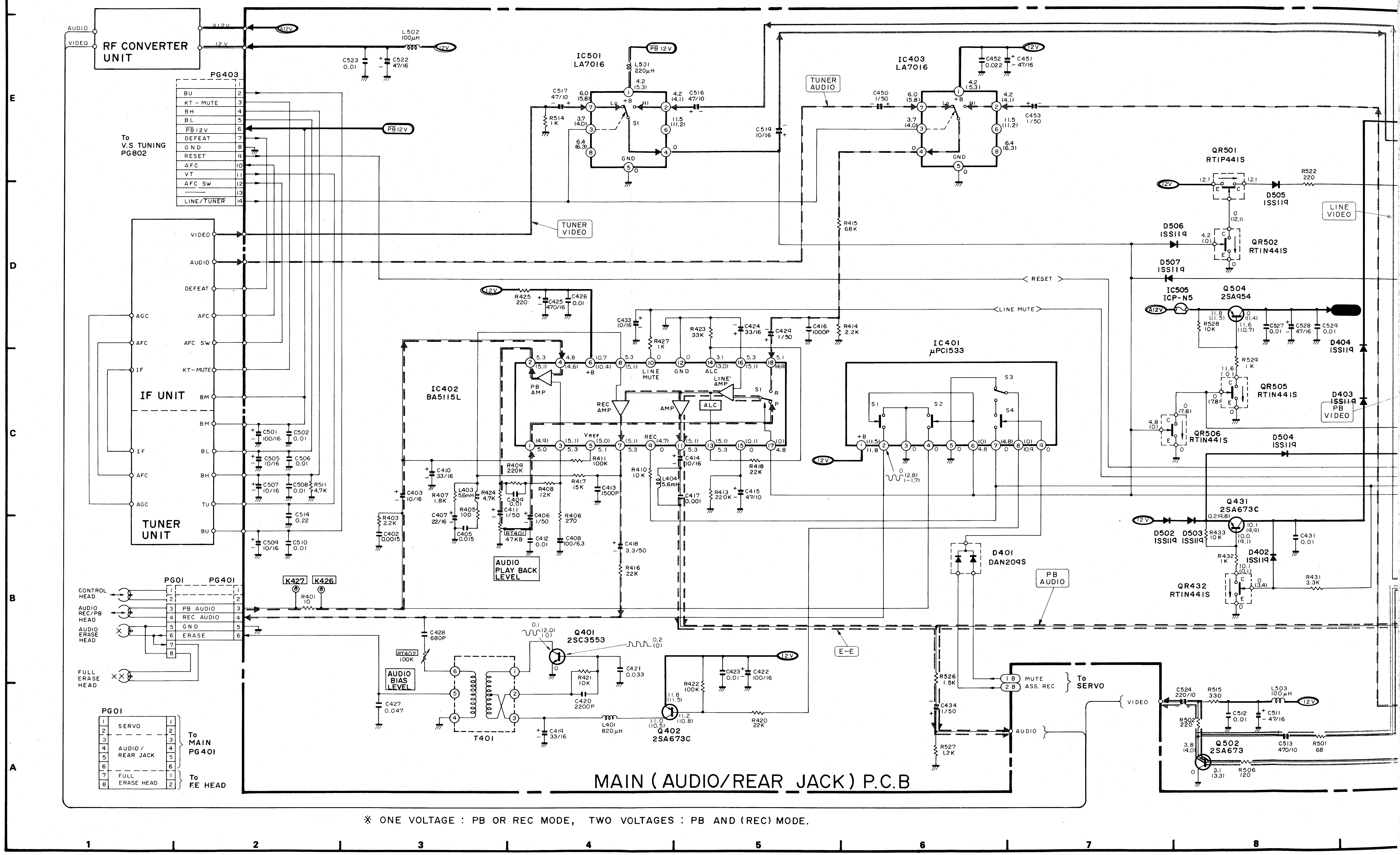
▨ Solderd side

▨ Parts side

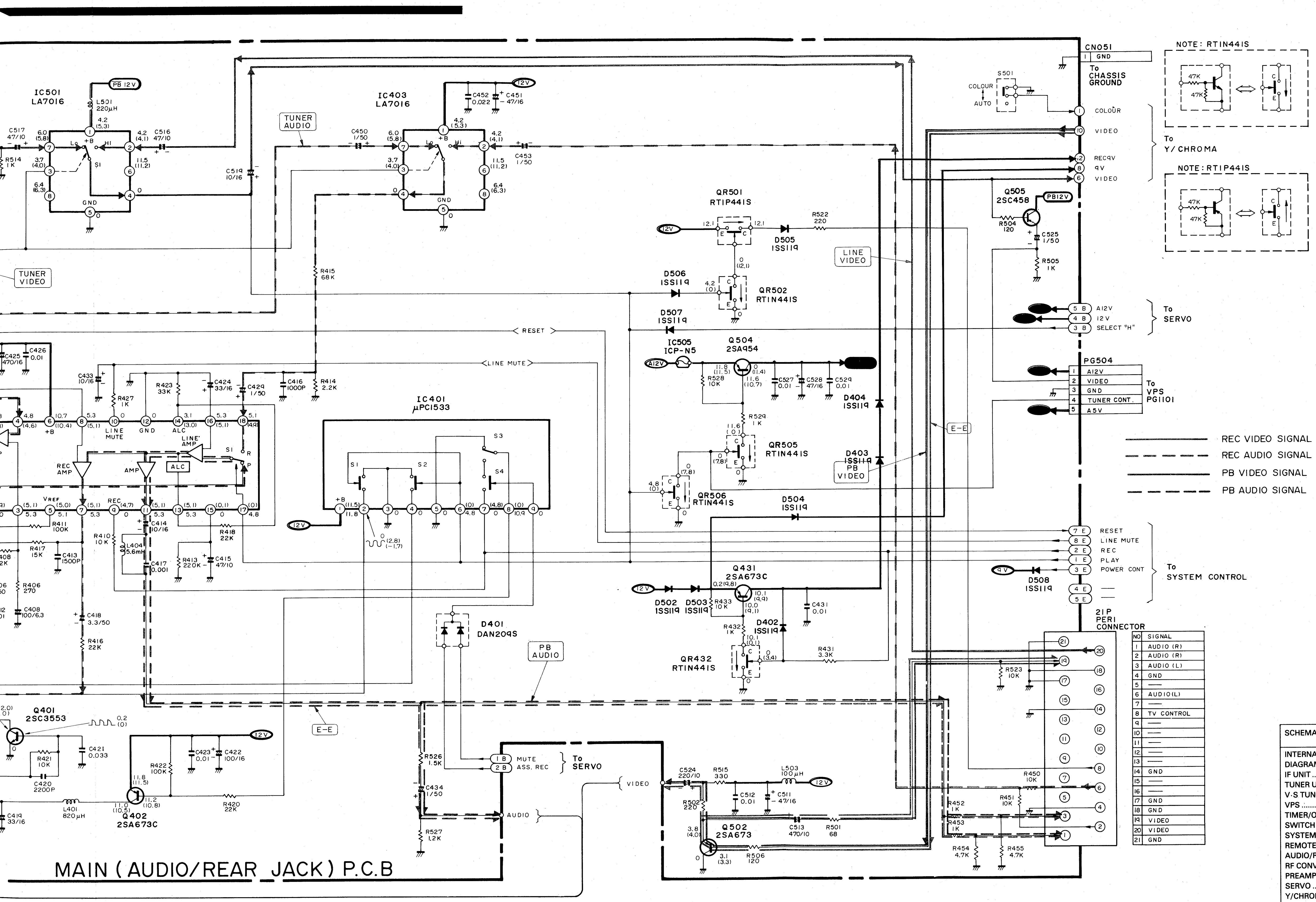
● Through hole

AUDIO/REAR JACK (AUDIO-BUCHSE)

VT-135E (VPS)


RF CONVERTER UNIT
AUDIO
VIDEO
A12V
12V
L502 100μH
C523 0.01
C522 47/16
PG403
BU
KT-MUTE
BH
BL
PB 12V
DEFEAT
GND
RESET
AFC
VT
AFC SW
LINE/TUNER
To V.S TUNING PG802
IC501 LA7016
L501 220μH
C517 47/10
C516 47/10
R514 1K
IC403 LA7016
C452 0.022
C451 47/16
C450 1/50
C453 1/50
C519 10/16
TUNER AUDIO
TUNER VIDEO
QR501 RTIP441S
R522 220
D505 1SS119
LINE VIDEO
D506 1SS119
QR502 RTIN441S
D507 1SS119
RESET
R415 68K
IC505 ICP-N5
Q504 2SA954
R528 10K
C527 0.01
C528 47/16
C529 0.01
LINE MUTE
R529 1K
D404 1SS119
QR505 RTIN441S
D403 1SS119
PB VIDEO
QR506 RTIN441S
D504 1SS119
IF UNIT
TUNER UNIT
VIDEO
AUDIO
DEFEAT
AFC
AFC SW
KT-MUTE
BM
BL
BH
TU
BU
AGC
IF
C501 100/16
C502 0.01
C505 10/16
C506 0.01
C507 10/16
C508 0.01
R511 4.7K
C514 0.22
C509 10/16
C510 0.01
R425 220
C425 470/16
C426 0.01
C433 10/16
R427 1K
R423 33K
C424 33/16
C429 1/50
C416 1000P
R414 2.2K
IC401 μPC1533
S1 S2 S3 S4
IC402 BA5115L
PB AMP
REC AMP
AMP
LINE AMP
ALC
LINE MUTE
GND
VREF
REC
R411 100K
R409 220K
R417 15K
C413 1500P
R408 12K
R410 10K
L404 5.6mH
C414 10/16
C417 0.001
R418 22K
R413 220K
C415 47/10
C410 33/16
C403 10/16
R407 1.8K
L403 5.6mH
R424 4.7K
C409 0.01
C411 1/50
C406 1/50
R406 270
C407 22/16
R405 100
C405 0.015
RT401 47KB
C412 0.01
C408 100/6.3
R403 2.2K
C402 0.0015
C418 3.3/50
R416 22K
AUDIO PLAY BACK LEVEL
Q431 2SA673C
C431 0.01
D502 1SS119
D503 1SS119
R433 10K
R432 1K
D402 1SS119
QR432 RTIN441S
R431 3.3K
D401 DAN209S
PB AUDIO
PG01
PG401
CONTROL HEAD
AUDIO REC/PB HEAD
AUDIO ERASE HEAD
FULL ERASE HEAD
PB AUDIO
REC AUDIO
GND
ERASE
K427
K426
R401 10
C428 680P
RT402 100K
AUDIO BIAS LEVEL
Q401 2SC3553
C421 0.033
R421 10K
C420 2200P
T401
C427 0.047
C419 33/16
L401 820μH
Q402 2SA673C
R422 100K
C423 0.01
C422 100/16
R420 22K
E-E
R526 1.5K
C434 1/50
R527 1.2K
MUTE
ASS. REC
To SERVO
VIDEO
AUDIO
C524 220/10
R515 330
L503 100μH
C512 0.01
C511 47/16
R502 220
Q502 2SA673
C513 470/10
R501 68
R506 120
PG01
SERVO
AUDIO/REAR JACK
FULL ERASE HEAD
To MAIN PG401
To F.E HEAD
MAIN (AUDIO/REAR JACK) P.C.B
E
D
C
B
A
1
2
3
4
5
6
7
8

※ ONE VOLTAGE : PB OR REC MODE, TWO VOLTAGES : PB AND (REC) MODE.


IC501
LA7016
PB 12V
L501
220μH
C517
47/10
R514
1K
C516
47/10
S1
Lo
Hi
+B
GND
C519
10/16
TUNER AUDIO
TUNER VIDEO
IC403
LA7016
12V
C452
0.022
C451
47/16
C450
1/50
C453
1/50
CN051
1 GND
To CHASSIS GROUND
S501
COLOUR
AUTO
COLOUR
VIDEO
REC9V
9V
VIDEO
To Y/CHROMA
NOTE: RTIN441S
47K
NOTE: RTIP441S
QR501
RTIP441S
D505
1SS119
R522
220
LINE VIDEO
Q505
2SC458
PB12V
R504
120
C525
1/50
R505
1K
D506
1SS119
QR502
RTIN441S
R415
68K
D507
1SS119
RESET
5 B A12V
4 B 12V
3 B SELECT "H"
To SERVO
IC505
ICP-N5
Q504
2SA954
A12V
R528
10K
C527
0.01
C528
47/16
C529
0.01
PG504
1 A12V
2 VIDEO
3 GND
4 TUNER CONT.
5 A5V
To VPS PG1101
LINE MUTE
C425
470/16
C426
0.01
C433
10/16
R427
1K
R423
33K
C424
33/16
C429
1/50
C416
1000P
R414
2.2K
IC401
μPC1533
S1
S2
S3
S4
D404
1SS119
R529
1K
QR505
RTIN441S
D403
1SS119
PB VIDEO
E-E
QR506
RTIN441S
D504
1SS119
LINE MUTE
GND
ALC
LINE AMP
REC AMP
AMP
VREF
REC
R411
100K
R417
15K
C413
1500P
R406
270
C408
100/6.3
R410
10K
L404
5.6mH
C414
10/16
C417
0.001
R418
22K
R413
220K
C415
47/10
C418
3.3/50
R416
22K
REC VIDEO SIGNAL
REC AUDIO SIGNAL
PB VIDEO SIGNAL
PB AUDIO SIGNAL
7 E RESET
8 E LINE MUTE
2 E REC
1 E PLAY
3 E POWER CONT
4 E
5 E
To SYSTEM CONTROL
9V
D508
1SS119
Q431
2SA673C
D502
1SS119
D503
1SS119
R433
10K
C431
0.01
R432
1K
D402
1SS119
QR432
RTIN441S
R431
3.3K
D401
DAN209S
PB AUDIO
21P PERI CONNECTOR
R523
10K
Q401
2SC3553
C421
0.033
R421
10K
C420
2200P
C419
33/16
L401
820μH
Q402
2SA673C
R422
100K
C423
0.01
C422
100/16
R420
22K
R526
1.5K
C434
1/50
R527
1.2K
1 B MUTE
2 B ASS. REC
To SERVO
VIDEO
AUDIO
C524
220/10
R515
330
L503
100μH
C512
0.01
C511
47/16
R502
220
Q502
2SA673
C513
470/10
R501
68
R506
120
R450
10K
R451
10K
R452
1K
R453
1K
R454
4.7K
R455
4.7K
4
5
6
7
8
9
10
11

MAIN (AUDIO/REAR JACK) P.C.B

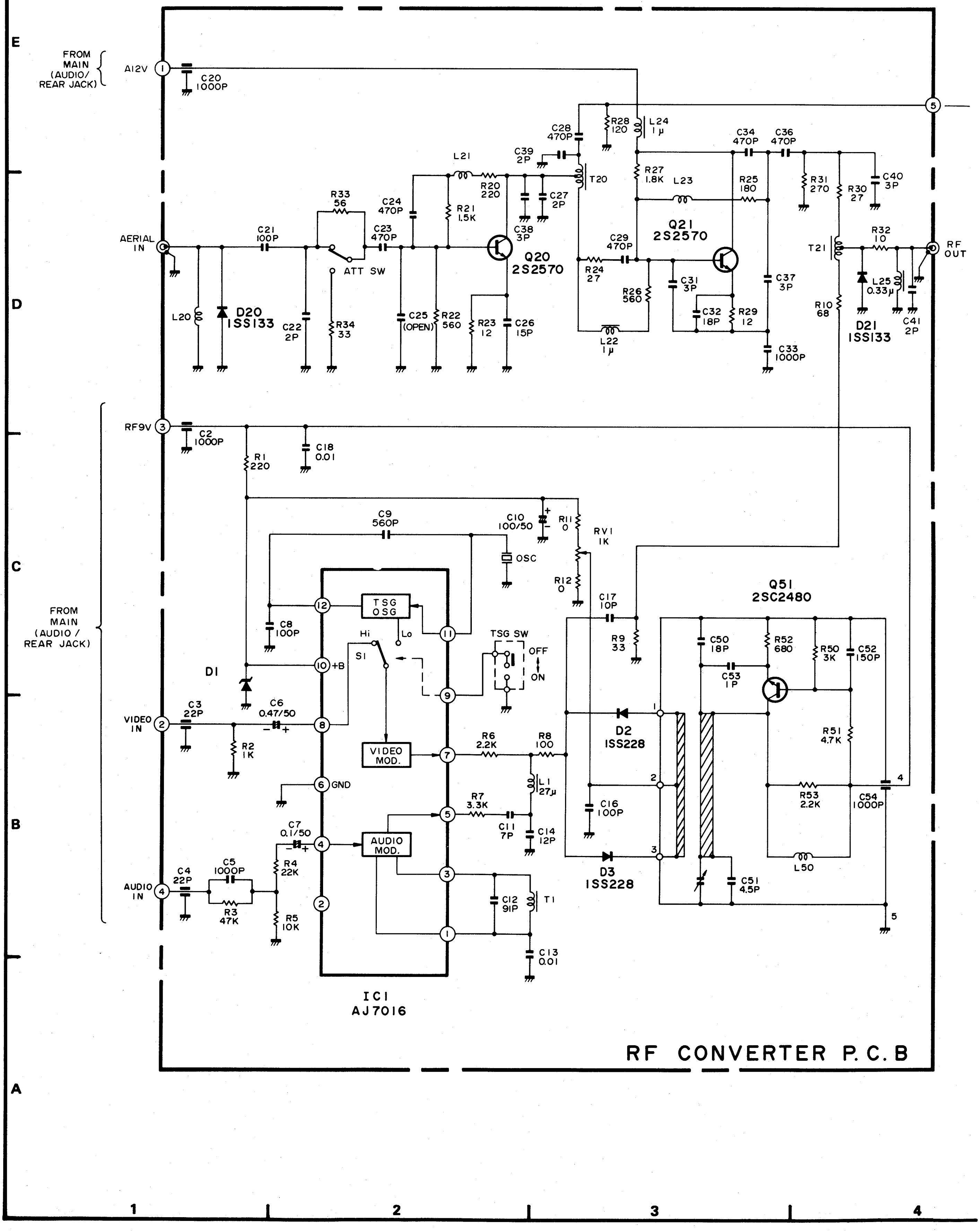
21P PERI CONNECTOR

NO	SIGNAL
1	AUDIO (R)
2	AUDIO (R)
3	AUDIO (L)
4	GND
5	——
6	AUDIO(L)
7	——
8	TV CONTROL
9	——
10	——
11	——
12	——
13	——
14	GND
15	——
16	——
17	GND
18	GND
19	VIDEO
20	VIDEO
21	GND

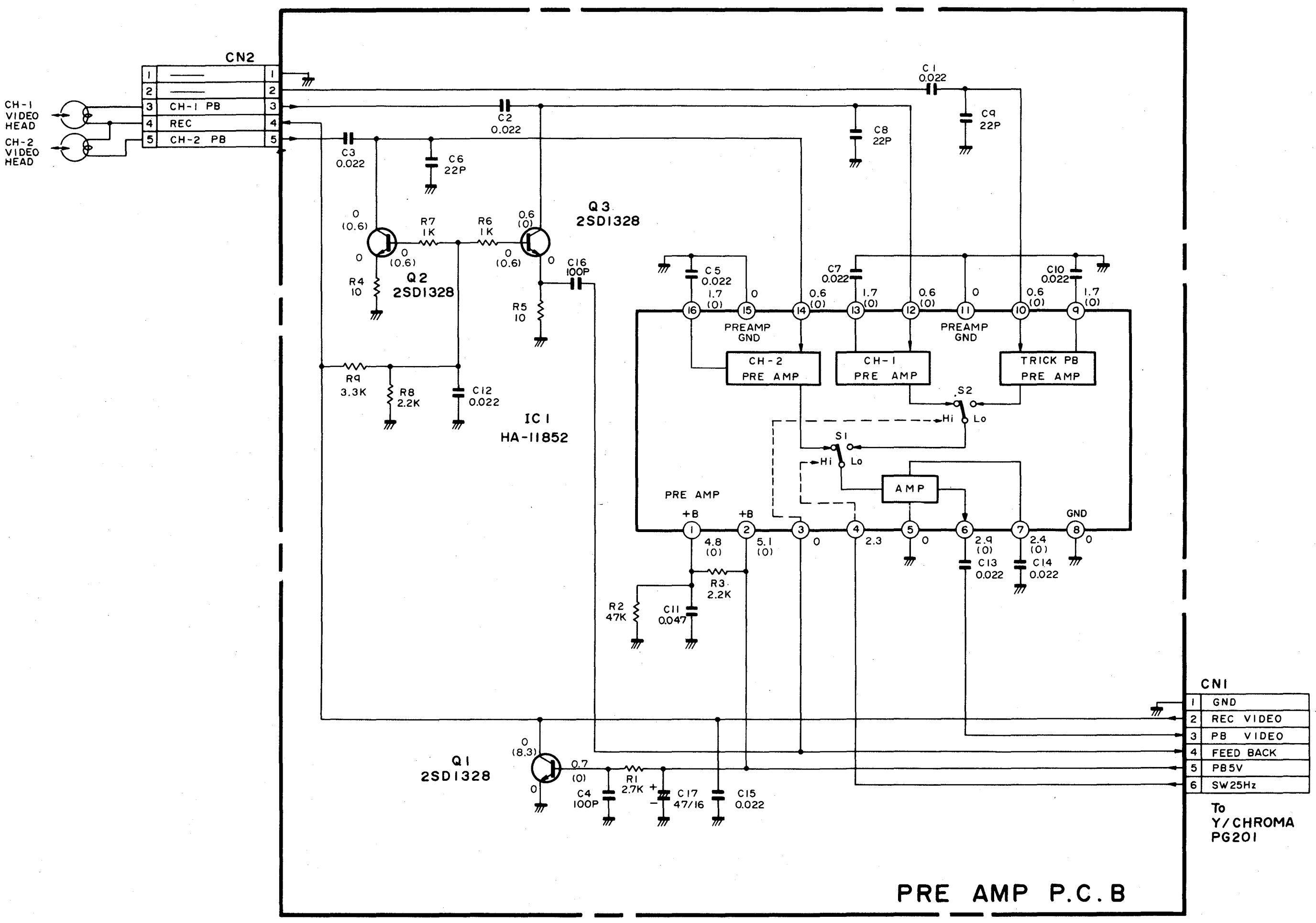
MODE, TWO VOLTAGES : PB AND (REC) MODE.

SCHEMATIC DIAGRAM	PAGE VT-125E/VT-135E
INTERNAL WIRING DIAGRAM	5-2/5-2
IF UNIT	5-4/5-4
TUNER UNIT	5-6/5-6
V·S TUNING	5-7/5-7
VPS	5-10/5-10
TIMER/OPERATION SWITCH	5-13/5-13
SYSTEM CONTROL	5-19/5-51
REMOTE CONTROL	5-23/5-55
AUDIO/REAR JACK	5-25/5-57
RF CONVERTER	5-28/5-60
PREAMP	5-29/5-61
SERVO	5-38/5-70
Y/CHROMA	5-41/5-73
REGULATOR	5-50/5-82

RF CONVERTER (HF-KONVERTER)

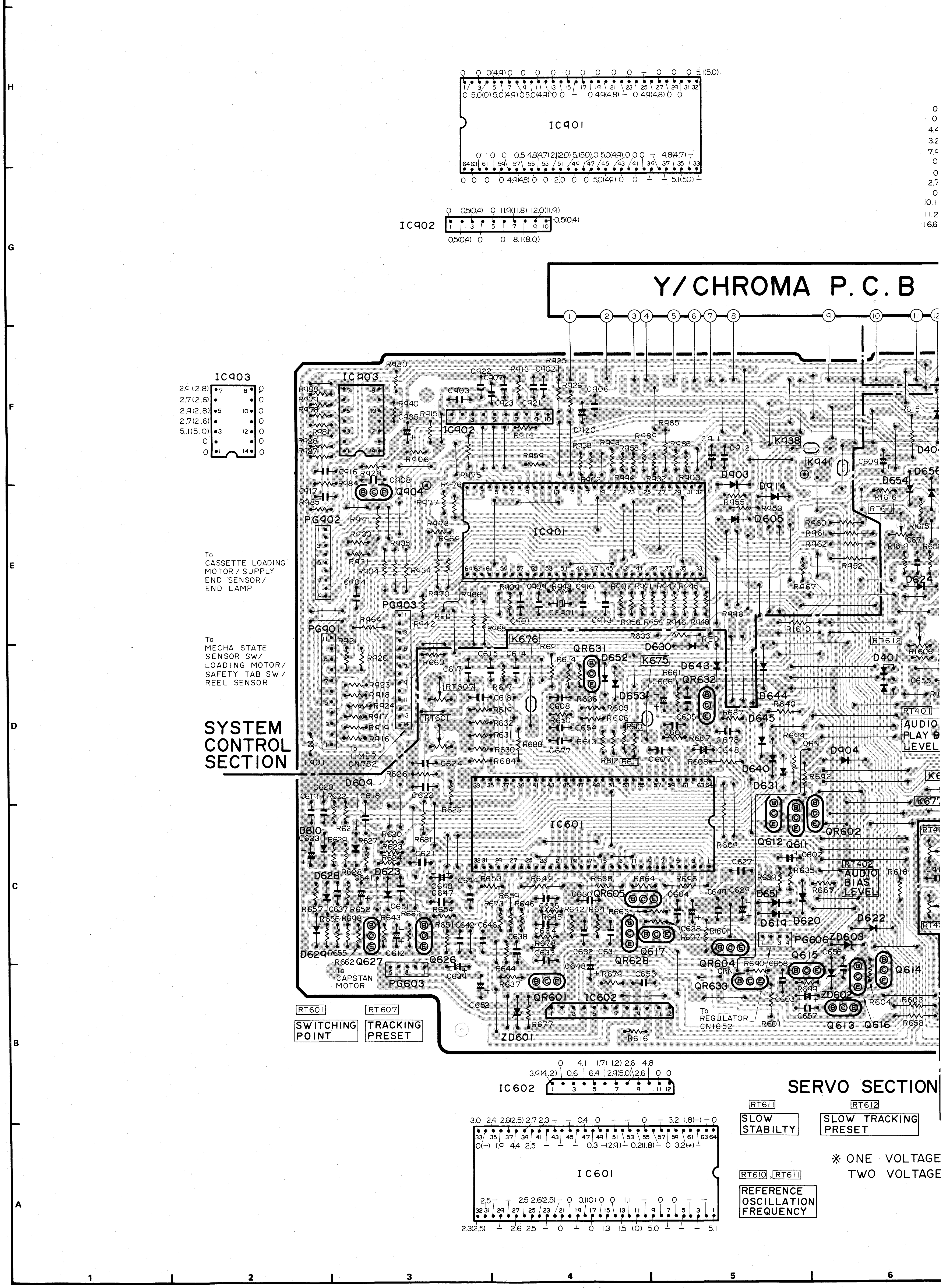

E
D
C
B
A
1
2
3
4
FROM MAIN (AUDIO/ REAR JACK)
A12V
①
C20 1000P
⑤
R28 120
L24 1μ
C28 470P
C39 2P
L21
R20 220
T20
C27 2P
R21 1.5K
C38 3P
R33 56
C24 470P
C23 470P
ATT SW
AERIAL IN
C21 100P
L20
D20 1SS133
C22 2P
R34 33
C25 (OPEN)
R22 560
R23 12
C26 15P
Q20 2S2570
R27 1.8K
L23
C34 470P
C36 470P
R25 180
R31 270
R30 27
C40 3P
Q21 2S2570
C29 470P
R24 27
R26 560
C31 3P
C32 18P
R29 12
C37 3P
L22 1μ
C33 1000P
T21
R32 10
RF OUT
L25 0.33μ
R10 68
D21 1SS133
C41 2P
RF9V
③
C2 1000P
R1 220
C18 0.01
FROM MAIN (AUDIO / REAR JACK)
C9 560P
C10 100/50
R11 0
RV1 1K
R12 0
OSC
C8 100P
TSG OSG
Hi
Lo
S1
TSG SW
OFF
ON
D1
⑫
⑪
⑩ +B
⑨
⑧
⑦
⑥ GND
⑤
④
③
②
①
VIDEO IN
C3 22P
C6 0.47/50
R2 1K
VIDEO MOD.
R6 2.2K
R8 100
L1 27μ
R7 3.3K
C11 7P
C14 12P
C7 0.1/50
AUDIO MOD.
AUDIO IN
C4 22P
C5 1000P
R3 47K
R4 22K
R5 10K
C12 91P
T1
C13 0.01
IC1 AJ7016
C17 10P
R9 33
Q51 2SC2480
C50 18P
R52 680
R50 3K
C52 150P
C53 1P
D2 1SS228
C16 100P
D3 1SS228
R51 4.7K
R53 2.2K
C54 1000P
L50
C51 4.5P
1
2
3
4
5
RF CONVERTER P. C. B

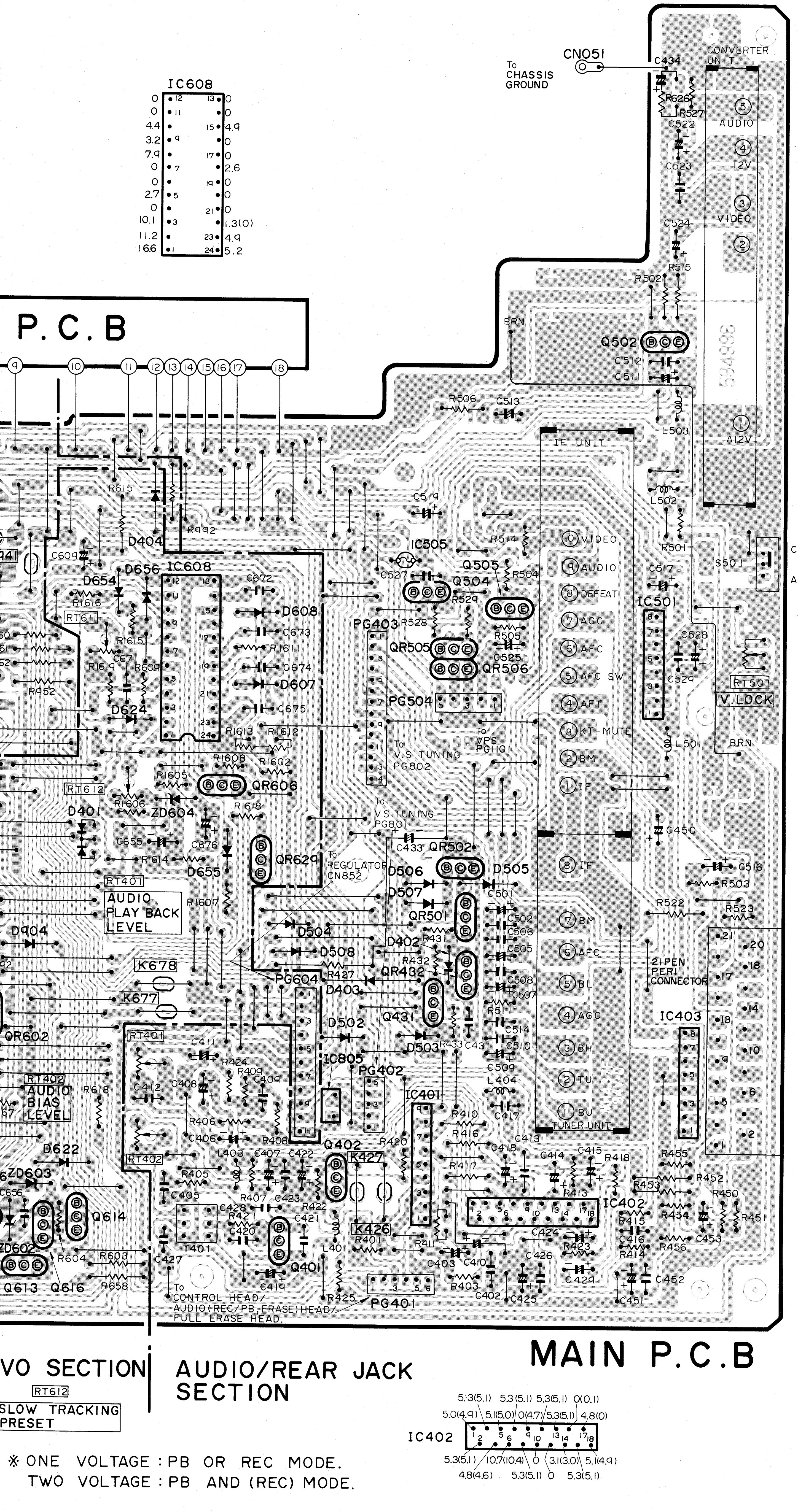
PREAMP (VORVERSTÄRKER)


CN2
CH-1 VIDEO HEAD
CH-2 VIDEO HEAD
1
2
3 CH-1 PB
4 REC
5 CH-2 PB
C1 0.022
C2 0.022
C3 0.022
C6 22P
C8 22P
C9 22P
Q3 2SD1328
Q2 2SD1328
R7 1K
R6 1K
R4 10
R5 10
C16 100P
R9 3.3K
R8 2.2K
C12 0.022
IC1 HA-11852
C5 0.022
C7 0.022
C10 0.022
PREAMP GND
CH-2 PRE AMP
CH-1 PRE AMP
TRICK PB PRE AMP
S2
S1
Hi
Lo
AMP
PRE AMP +B
+B
GND
4.8 (0)
5.1 (0)
2.3
2.9 (0)
2.4 (0)
C13 0.022
C14 0.022
R3 2.2K
R2 47K
C11 0.047
Q1 2SD1328
0 (8.3)
0.7 (0)
C4 100P
R1 2.7K
C17 47/16
C15 0.022
CN1
1 GND
2 REC VIDEO
3 PB VIDEO
4 FEED BACK
5 PB5V
6 SW25Hz
To Y/CHROMA PG201
PRE AMP P.C.B

※ONE VOLTAGE : PB OR REC MODE,
TWO VOLTAGES : PB AND (REC) MODE.

SCHEMATIC DIAGRAM	PAGE VT-125E/VT-135E
INTERNAL WIRING DIAGRAM	5-2/5-2
IF UNIT	5-4/5-4
TUNER UNIT	5-6/5-6
V·S TUNING	5-7/5-7
VPS	5-10/5-10
TIMER/OPERATION SWITCH	5-13/5-13
SYSTEM CONTROL	5-19/5-51
REMOTE CONTROL	5-23/5-55
AUDIO/REAR JACK	5-25/5-57
RF CONVERTER	5-28/5-60
PREAMP	5-29/5-61
SERVO	5-38/5-70
Y/CHROMA	5-41/5-73
REGULATOR	5-50/5-82


IC901
IC902
IC903
Y/CHROMA P.C.B
To
CASSETTE LOADING
MOTOR / SUPPLY
END SENSOR/
END LAMP
To
MECHA STATE
SENSOR SW/
LOADING MOTOR/
SAFETY TAB SW/
REEL SENSOR
SYSTEM
CONTROL
SECTION
To
TIMER
CN752
PG901
PG902
PG903
PG603
PG606
IC601
IC602
To
CAPSTAN
MOTOR
To
REGULATOR
CN1652
RT601
SWITCHING
POINT
RT607
TRACKING
PRESET
SERVO SECTION
RT611
SLOW
STABILTY
RT612
SLOW TRACKING
PRESET
RT610, RT611
REFERENCE
OSCILLATION
FREQUENCY
RT402
AUDIO
BIAS
LEVEL
RT401
AUDIO
PLAY B
LEVEL
※ ONE VOLTAGE
TWO VOLTAGE
H
G
F
E
D
C
B
A
1
2
3
4
5
6


P.C.B
MAIN P.C.B
VO SECTION
AUDIO/REAR JACK SECTION
RT612
SLOW TRACKING PRESET
IC608
0 0 4.4 3.2 7.9 0 0 2.7 0 10.1 11.2 16.6
0 0 4.9 0 0 2.6 0 0 0 1.3(0) 4.9 5.2
CN051
To CHASSIS GROUND
CONVERTER UNIT
① A12V
②
③ VIDEO
④ 12V
⑤ AUDIO
594996
IF UNIT
⑩ VIDEO
⑨ AUDIO
⑧ DEFEAT
⑦ AGC
⑥ AFC
⑤ AFC SW
④ AFT
③ KT-MUTE
② BM
① IF
TUNER UNIT
① BU
② TU
③ BH
④ AGC
⑤ BL
⑥ AFC
⑦ BM
⑧ IF
MH437F 94V-0
COLOUR
AUTO
S501
V.LOCK
RT501
BRN
21PEN PERI CONNECTOR
To REGULATOR CN852
To V.S TUNING PG801
To V.S TUNING PG802
To VPS PG1101
To CONTROL HEAD/ AUDIO(REC/PB, ERASE) HEAD/ FULL ERASE HEAD.
AUDIO PLAY BACK LEVEL
AUDIO BIAS LEVEL
RT401
RT402
RT611
RT612
K426
K427
K677
K678
IC401
IC402
IC403
IC501
IC505
IC608
IC805
PG401
PG402
PG403
PG504
PG604
Q401
Q402
Q431
Q502
Q504
Q505
Q613
Q614
Q616
QR432
QR501
QR502
QR505
QR506
QR602
QR606
QR629
D401
D402
D403
D404
D502
D503
D504
D505
D506
D507
D508
D607
D608
D622
D624
D654
D655
D656
D904
ZD602
ZD603
ZD604
T401
L401
L403
L404
L501
L502
L503
IC402
5.3(5.1) 5.3(5.1) 5.3(5.1) 0(0.1)
5.0(4.9) 5.1(5.0) 0(4.7) 5.3(5.1) 4.8(0)
5.3(5.1) 10.7(10.4) 0 3.1(3.0) 5.1(4.9)
4.8(4.6) 5.3(5.1) 0 5.3(5.1)

※ ONE VOLTAGE : PB OR REC MODE.
TWO VOLTAGE : PB AND (REC) MODE.

IC501

8	6.4(6.3)
7	6.0(5.8)
	11.5(11.2)
5	0
	0
3	3.7(4.0)
	4.2(4.1)
1	4.2(5.3)

NO	SIGNAL
21	GND
20	VIDEO
19	VIDEO
18	GND
17	GND
16	———
15	———
14	GND
13	———
12	———
11	———
10	———
9	———
8	TV CONTROL
7	———
6	AUDIO(L)
5	———
4	GND
3	AUDIO(L)
2	AUDIO(R)
1	AUDIO(R)

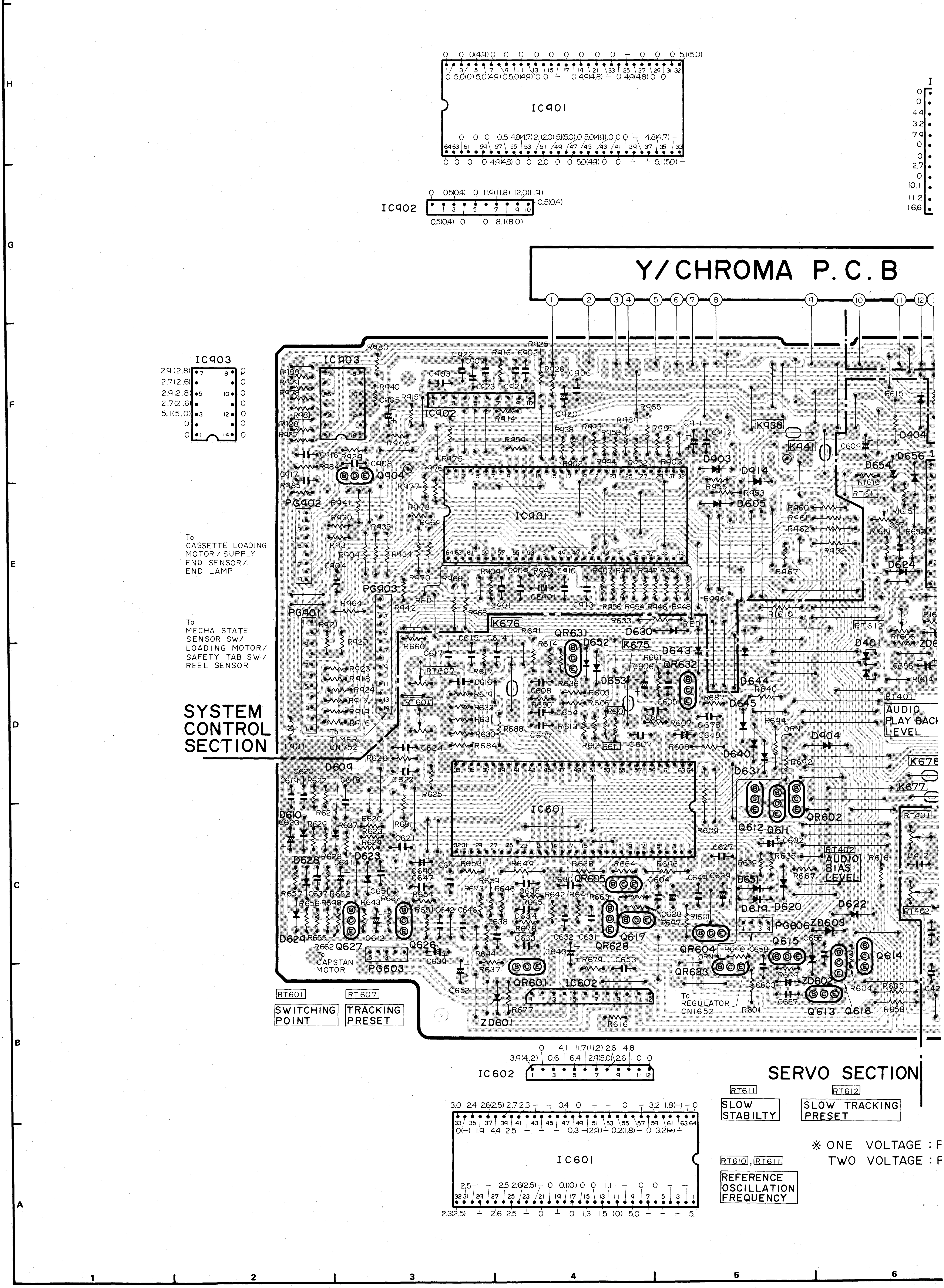
8	6.4(6.3)
7	6.0(5.8)
	11.5(11.2)
5	0
	0
3	3.7(4.0)
	4.2(4.1)
1	4.2(5.3)

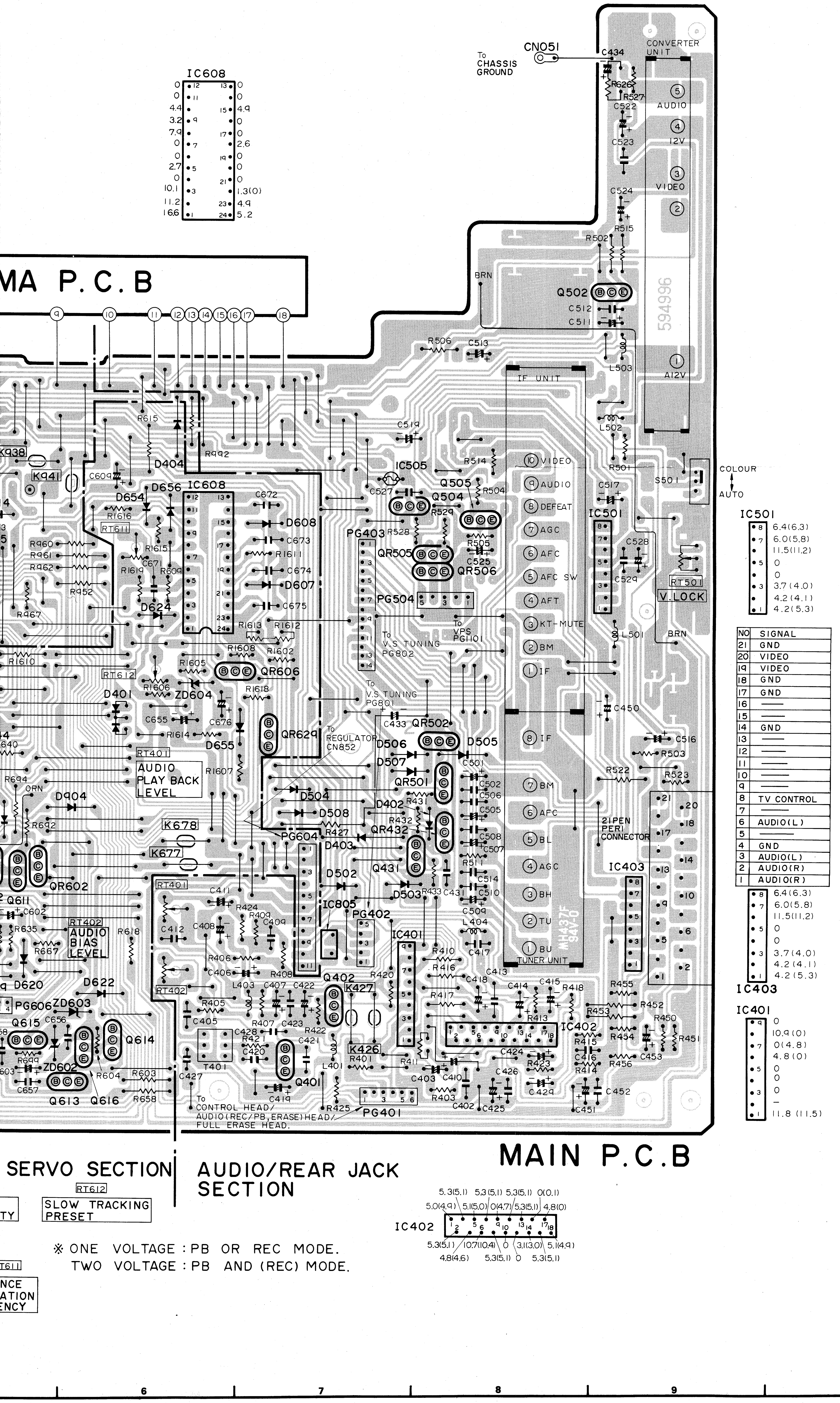
IC403

IC401

9	0
	10.9(0)
7	0(4.8)
	4.8(0)
5	0
	0
3	0
	–
1	11.8(11.5)

6 7 8 9 10 11


IC901
IC902
IC903
Y/CHROMA P.C.B
SYSTEM CONTROL SECTION
SERVO SECTION
IC601
IC602
To CASSETTE LOADING MOTOR / SUPPLY END SENSOR/ END LAMP
To MECHA STATE SENSOR SW/ LOADING MOTOR/ SAFETY TAB SW/ REEL SENSOR
To TIMER CN752
To CAPSTAN MOTOR
To REGULATOR CN1652
PG901
PG902
PG903
PG603
PG606
RT601 SWITCHING POINT
RT607 TRACKING PRESET
RT611 SLOW STABILTY
RT612 SLOW TRACKING PRESET
RT610, RT611 REFERENCE OSCILLATION FREQUENCY
RT401 AUDIO PLAY BACK LEVEL
RT402 AUDIO BIAS LEVEL
※ ONE VOLTAGE : F
TWO VOLTAGE : F
H
G
F
E
D
C
B
A
1
2
3
4
5
6


MA P.C.B
MAIN P.C.B
SERVO SECTION
AUDIO/REAR JACK SECTION
SLOW TRACKING PRESET
RT612
RT611
AUDIO PLAY BACK LEVEL
AUDIO BIAS LEVEL
IC608
IC501
IC401
IC402
IC403
IF UNIT
TUNER UNIT
CONVERTER UNIT
21PEN PERI CONNECTOR
V.LOCK
RT501
To CHASSIS GROUND
CN051
COLOUR
AUTO
S501
To CONTROL HEAD/ AUDIO (REC/PB, ERASE) HEAD/ FULL ERASE HEAD.
To REGULATOR CN852
To V.S TUNING PG801
To V.S TUNING PG802
To VPS PG1101
594996
MH437F 94V-0
A12V
VIDEO
12V
AUDIO
BU
TU
BH
AGC
BL
AFC
BM
IF
KT-MUTE
AFT
AFC SW
DEFEAT
IC608: 1 16.6, 3 11.2, 10.1, 0, 5 2.7, 0, 7 0, 7.9, 9 3.2, 4.4, 11 0, 12 0, 13 0, 15 4.9, 0, 17 0, 2.6, 19 0, 0, 21 0, 1.3(0), 23 4.9, 24 5.2
IC501: 8 6.4(6.3), 7 6.0(5.8), 11.5(11.2), 5 0, 0, 3 3.7(4.0), 4.2(4.1), 1 4.2(5.3)
IC403: 8 6.4(6.3), 7 6.0(5.8), 11.5(11.2), 5 0, 0, 3 3.7(4.0), 4.2(4.1), 1 4.2(5.3)
IC401: 9 0, 10.9(0), 7 0(4.8), 4.8(0), 5 0, 0, 3 0, –, 1 11.8 (11.5)
IC402: 5.3(5.1) 5.3(5.1) 5.3(5.1) 0(0.1) 5.0(4.9) 5.1(5.0) 0(4.7) 5.3(5.1) 4.8(0) 5.3(5.1) 10.7(10.4) 0 3.1(3.0) 5.1(4.9) 4.8(4.6) 5.3(5.1) 0 5.3(5.1)

NO	SIGNAL
21	GND
20	VIDEO
19	VIDEO
18	GND
17	GND
16	———
15	———
14	GND
13	———
12	———
11	———
10	———
9	———
8	TV CONTROL
7	———
6	AUDIO(L)
5	———
4	GND
3	AUDIO(L)
2	AUDIO(R)
1	AUDIO(R)

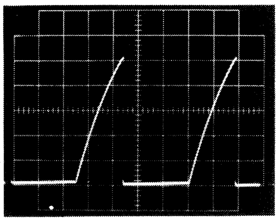
※ ONE VOLTAGE : PB OR REC MODE.
TWO VOLTAGE : PB AND (REC) MODE.

SERVO CIRCUIT WAVEFORMS (WELLENFORM)

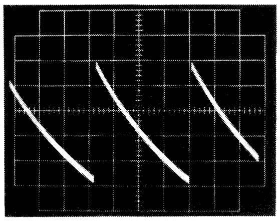
[IC601]

(REC: Colour bar Video in/PB: Alignment tape)

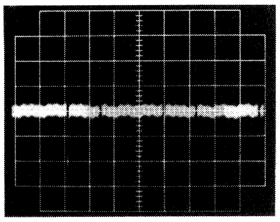
① PIN2 REC/PB
0.5V/10ms. div.



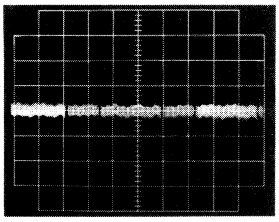
② PIN3 REC/PB
0.1V/10ms. div.



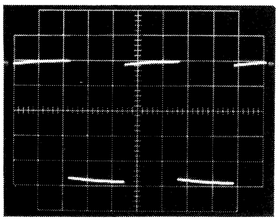
③ PIN4 REC/PB
50mV/10ms. div.



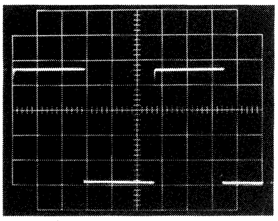
④ PIN5 REC/PB
50mV/10ms. div.



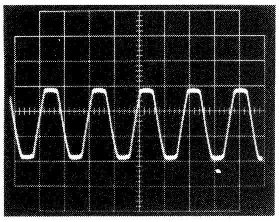
⑤ PIN11 REC/PB
1V/0.2ms. div.



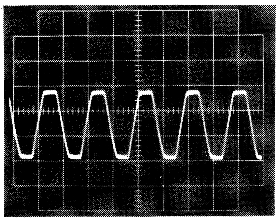
⑥ PIN22 REC/PB
1V/20μs. div.



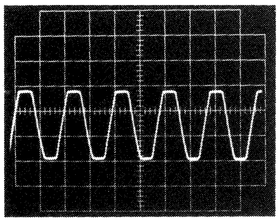
⑦ PIN28 REC/PB
0.5V/1ms. div.



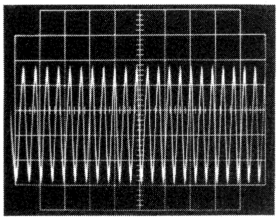
⑧ PIN29 REC/PB
0.5V/1ms. div.



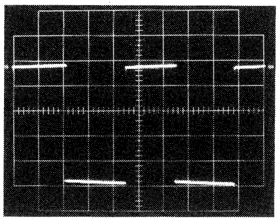
⑨ PIN30 REC/PB
1V/1ms. div.



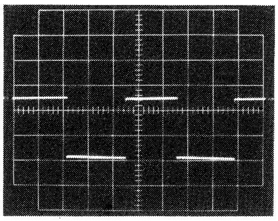
⑩ PIN32 REC/PB
50mV/0.5μs. div.



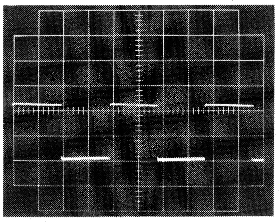
⑪ PIN42 REC/PB
1V/0.1ms. div.



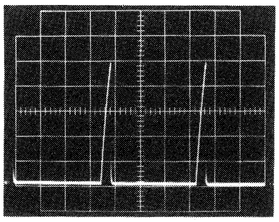
⑫ PIN43 REC/PB
2V/0.1ms. div.



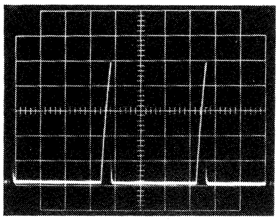
⑬ PIN44 REC/PB
2V/10ms. div.



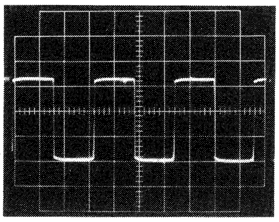
⑭ PIN45 REC/PB
0.5V/5ms. div.



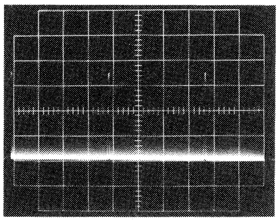
⑮ PIN46 REC/PB
0.5V/5ms. div.



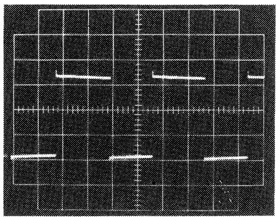
⑯ PIN50 REC/PB
1V/1ms. div.



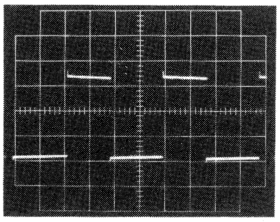
⑰ PIN53 REC/PB
1V/5ms. div.



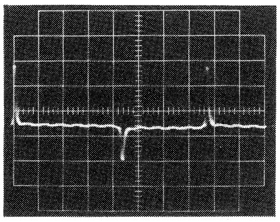
⑱ PIN59 REC
1V/10ms. div.



⑲ PIN60 REC
1V/10ms. div.

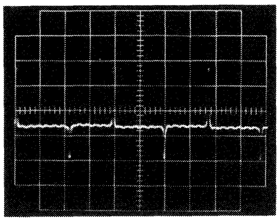


⑳ PIN62 PB
1V/5ms. div.



[IC601]

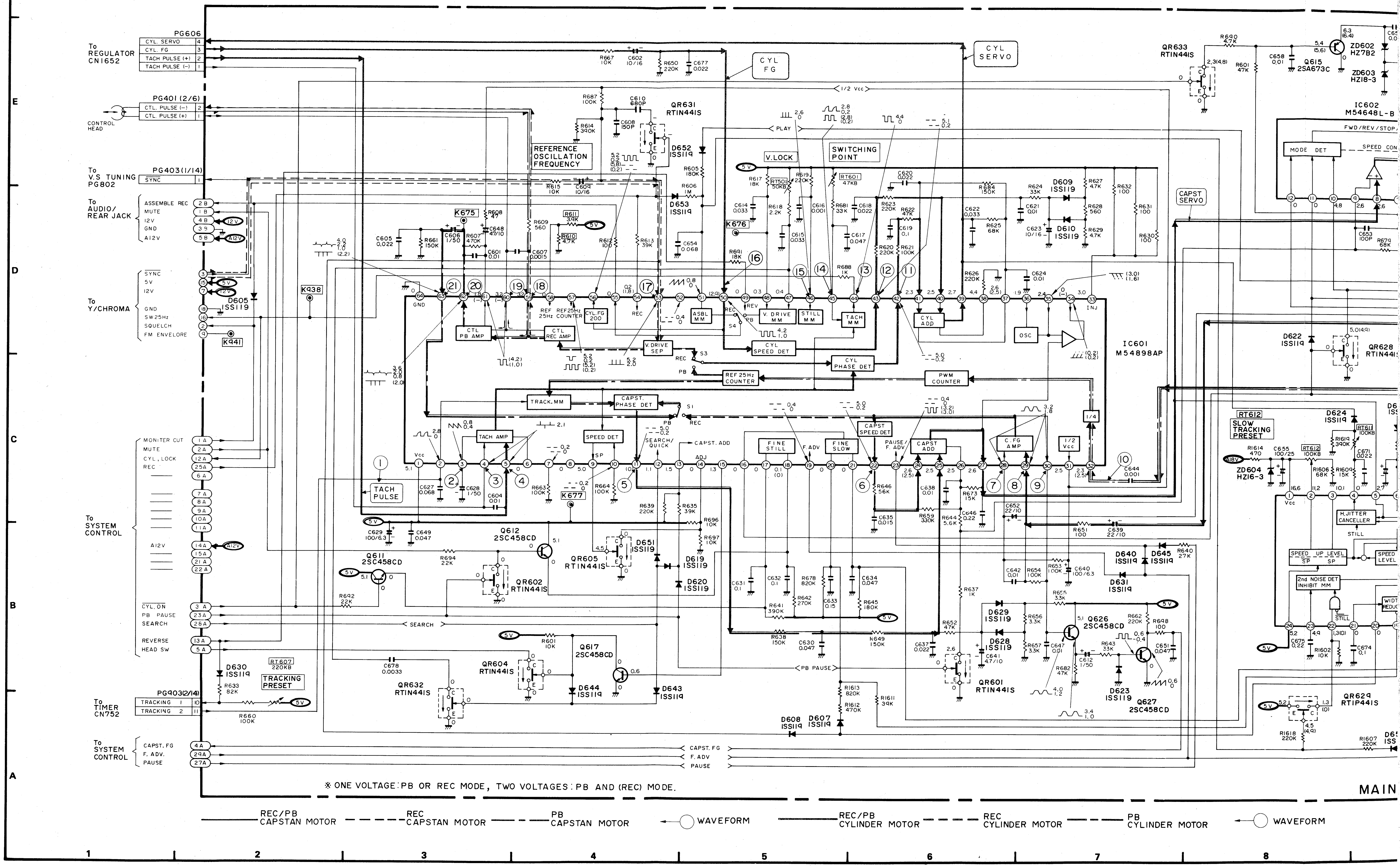
㉑ PIN63 PB
1V/10ms. div.



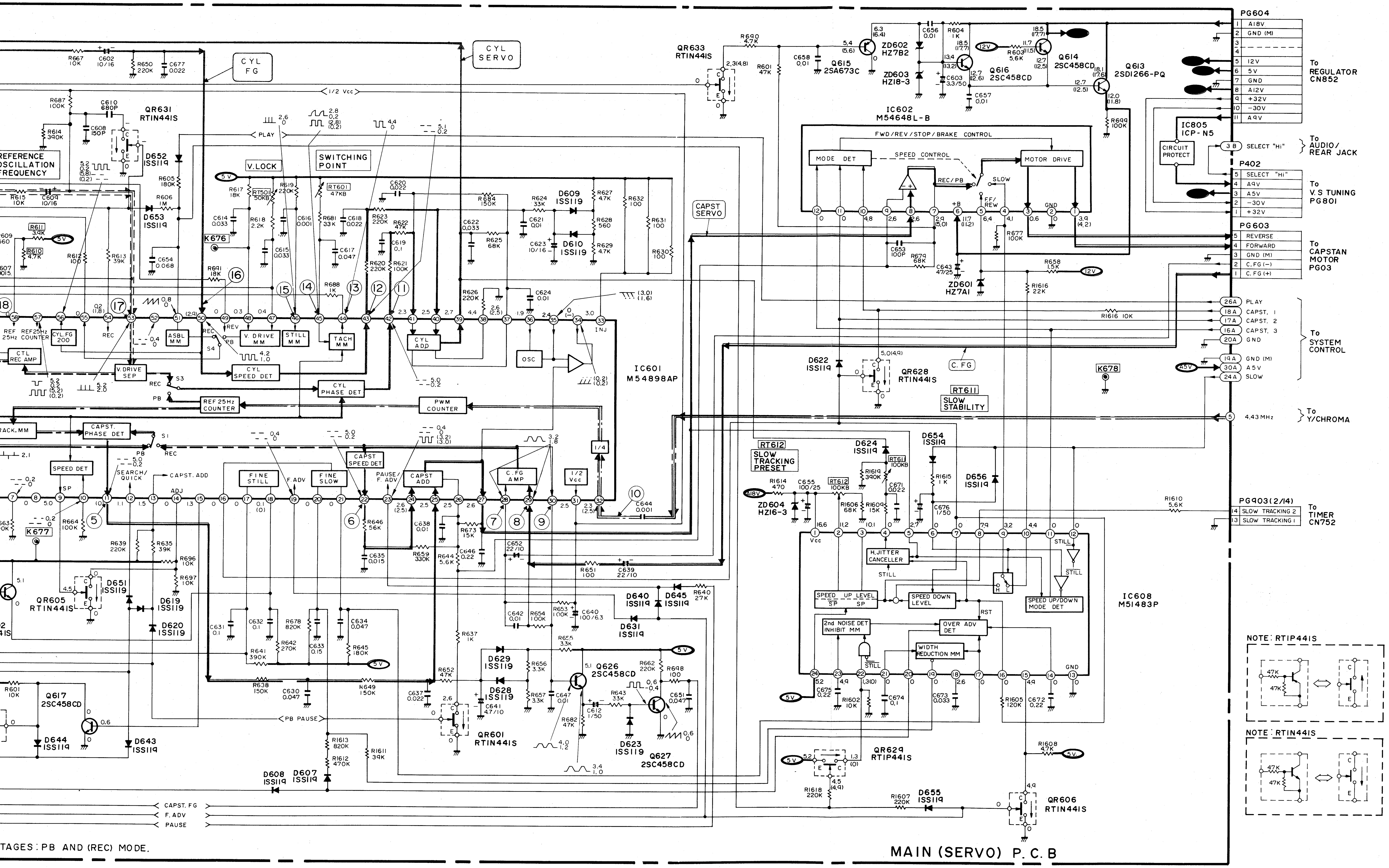
SCHEMATIC DIAGRAM	PAGE VT-125E/VT-135E
INTERNAL WIRING DIAGRAM	5-2/5-2
IF UNIT	5-4/5-4
TUNER UNIT	5-6/5-6
V·S TUNING	5-7/5-7
VPS	5-10/5-10
TIMER/OPERATION SWITCH	5-13/5-13
SYSTEM CONTROL	5-19/5-51
REMOTE CONTROL	5-23/5-55
AUDIO/REAR JACK	5-25/5-57
RF CONVERTER	5-28/5-60
PREAMP	5-29/5-61
SERVO	5-38/5-70
Y/CHROMA	5-41/5-73
REGULATOR	5-50/5-82

SERVO

VT-135E (VPS)


To REGULATOR CN1652
PG606
CYL. SERVO
CYL. FG
TACH PULSE (+)
TACH PULSE (−)
PG401 (2/6)
CTL. PULSE (−)
CTL. PULSE (+)
CONTROL HEAD
To V.S TUNING PG802
PG403(1/14)
SYNC
To AUDIO/ REAR JACK
ASSEMBLE REC
MUTE
12V
GND
A12V
To Y/CHROMA
SYNC
5V
12V
GND
SW25Hz
SQUELCH
FM ENVELOPE
D605 ISS119
K938
K941
To SYSTEM CONTROL
MONITER CUT
MUTE
CYL. LOCK
REC
A12V
CYL. ON
PB PAUSE
SEARCH
REVERSE
HEAD SW
D630 ISS119
R633 82K
RT607 220KB
TRACKING PRESET
To TIMER CN752
PG903(2/14)
TRACKING 1
TRACKING 2
R660 100K
To SYSTEM CONTROL
CAPST. FG
F. ADV.
PAUSE
CYL FG
CYL SERVO
1/2 Vcc
QR631 RTIN441S
D652 ISS119
REFERENCE OSCILLATION FREQUENCY
K675
K676
K677
V. LOCK
SWITCHING POINT
RT501 50KB
RT601 47KB
PLAY
CAPST SERVO
QR633 RTIN441S
Q615 2SA673C
ZD602 HZ7B2
ZD603 HZ18-3
IC602 M54648L-B
FWD/REV/STOP
MODE DET
SPEED CON
IC601 M54898AP
GND
CTL PB AMP
CTL REC AMP
REF 25Hz
REF 25Hz COUNTER
CYL FG 200
V. DRIVE SEP
ASBL MM
V. DRIVE MM
STILL MM
TACH MM
CYL ADD
CYL SPEED DET
CYL PHASE DET
REF 25Hz COUNTER
PWM COUNTER
OSC
INJ
TRACK. MM
CAPST. PHASE DET
TACH AMP
SPEED DET
SEARCH/ QUICK
CAPST. ADD
ADJ
FINE STILL
F. ADV
FINE SLOW
PAUSE/ F. ADV
CAPST SPEED DET
CAPST ADD
C. FG AMP
1/2 Vcc
1/4
TACH PULSE
REC
PB
S1
S3
S4
REV
Q612 2SC458CD
Q611 2SC458CD
QR602 RTIN441S
QR605 RTIN441S
D651 ISS119
D619 ISS119
D620 ISS119
QR604 RTIN441S
Q617 2SC458CD
D644 ISS119
D643 ISS119
QR632 RTIN441S
PB PAUSE
D608 ISS119
D607 ISS119
QR601 RTIN441S
D629 ISS119
D628 ISS119
Q626 2SC458CD
D623 ISS119
Q627 2SC458CD
D640 ISS119
D645 ISS119
D631 ISS119
D622 ISS119
QR628 RTIN441S
RT612
SLOW TRACKING PRESET
D624 ISS119
RT611 100KB
ZD604 HZ16-3
H. JITTER CANCELLER
STILL
SPEED UP LEVEL
SP
2nd NOISE DET INHIBIT MM
QR629 RTIP441S
MAIN
REC/PB CAPSTAN MOTOR
REC CAPSTAN MOTOR
PB CAPSTAN MOTOR
WAVEFORM
REC/PB CYLINDER MOTOR
REC CYLINDER MOTOR
PB CYLINDER MOTOR
WAVEFORM
E
D
C
B
A
1
2
3
4
5
6
7
8

※ ONE VOLTAGE: PB OR REC MODE, TWO VOLTAGES: PB AND (REC) MODE.


CYL SERVO
CYL FG
CAPST SERVO
QR633 RTIN441S
QR631 RTIN441S
REFERENCE OSCILLATION FREQUENCY
SWITCHING POINT
V.LOCK
RT501 50KB
RT601 47KB
K676
K677
K678
IC601 M54898AP
IC602 M54648L-B
IC608 M51483P
IC805 ICP-N5
CIRCUIT PROTECT
FWD/REV/STOP/BRAKE CONTROL
MODE DET
SPEED CONTROL
MOTOR DRIVE
REC/PB
SLOW
FF/REW
Q613 2SD1266-PQ
Q614 2SC458CD
Q615 2SA673C
Q616 2SC458CD
Q617 2SC458CD
Q626 2SC458CD
Q627 2SC458CD
ZD601 HZ7A1
ZD602 HZ7B2
ZD603 HZ18-3
ZD604 HZ16-3
QR601 RTIN441S
QR605 RTIN441S
QR606 RTIN441S
QR628 RTIN441S
QR629 RTIP441S
PG604
A18V
GND (M)
12V
5V
GND
A12V
+32V
-30V
A9V
To REGULATOR CN852
SELECT "HI"
To AUDIO/REAR JACK
P402
A5V
To V.S TUNING PG801
PG603
REVERSE
FORWARD
C.FG (-)
C.FG (+)
To CAPSTAN MOTOR PG03
PLAY
CAPST. 1
CAPST. 2
CAPST. 3
SLOW
To SYSTEM CONTROL
C.FG
RT611 SLOW STABILITY
4.43MHz
To Y/CHROMA
RT612 SLOW TRACKING PRESET
PG903(2/14)
SLOW TRACKING 2
SLOW TRACKING 1
To TIMER CN752
H.JITTER CANCELLER
SPEED UP LEVEL SP
SPEED DOWN LEVEL
SPEED UP/DOWN MODE DET
2nd NOISE DET INHIBIT MM
OVER ADV DET
WIDTH REDUCTION MM
STILL
RST
NOTE: RTIP441S
NOTE: RTIN441S
CTL REC AMP
CYL.FG 200
REF 25Hz COUNTER
V.DRIVE SEP
V. DRIVE MM
STILL MM
TACH MM
ASBL MM
CYL SPEED DET
CYL PHASE DET
CYL ADD
OSC
PWM COUNTER
1/4
1/2 Vcc
CAPST. PHASE DET
SPEED DET
SEARCH/QUICK
CAPST. ADD
FINE STILL
F.ADV
FINE SLOW
CAPST SPEED DET
PAUSE/F.ADV
CAPST ADD
C.FG AMP
PB PAUSE
CAPST. FG
F.ADV
PAUSE
MAIN (SERVO) P.C.B

TAGES: PB AND (REC) MODE.

PB CAPSTAN MOTOR

←○ WAVEFORM

REC/PB CYLINDER MOTOR

REC CYLINDER MOTOR

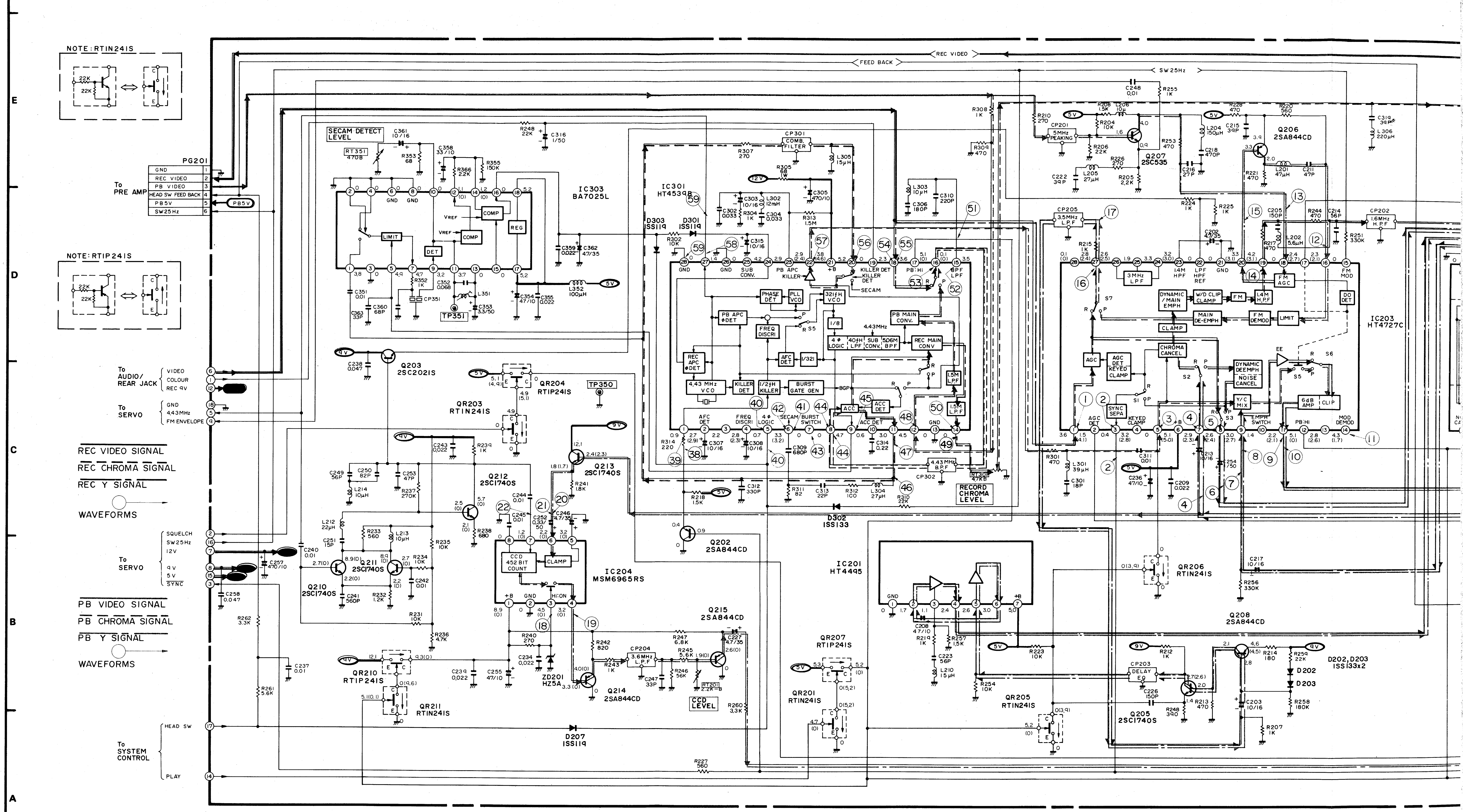
PB CYLINDER MOTOR

←○ WAVEFORM

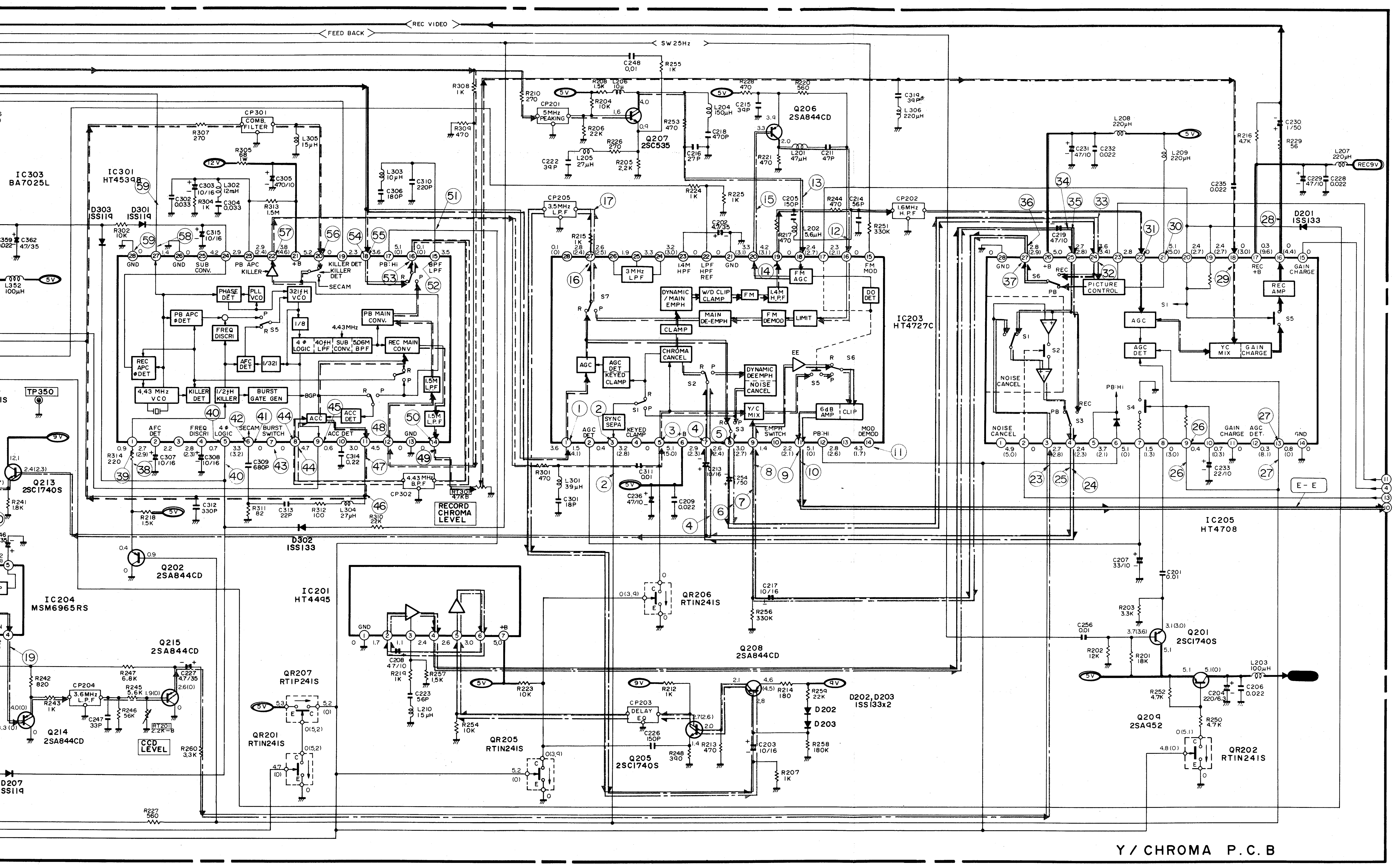
4 | 5 | 6 | 7 | 8 | 9 | 10 | 11

Y/CHROMA (LUMINANZ/CHROMANINANZ)

VT-135E (VPS)


NOTE: RTIN241S
NOTE: RTIP241S
PG201
GND
REC VIDEO
PB VIDEO
HEAD SW FEED BACK
PB 5V
SW 25Hz
To PRE AMP
To AUDIO/ REAR JACK
VIDEO
COLOUR
REC 9V
To SERVO
GND
4.43MHz
FM ENVELOPE
REC VIDEO SIGNAL
REC CHROMA SIGNAL
REC Y SIGNAL
WAVEFORMS
SQUELCH
SW25Hz
12V
9V
5V
SYNC
PB VIDEO SIGNAL
PB CHROMA SIGNAL
PB Y SIGNAL
WAVEFORMS
To SYSTEM CONTROL
HEAD SW
PLAY
FEED BACK
REC VIDEO
SW 25Hz
SECAM DETECT LEVEL
RT351 470B
IC303 BA7025L
LIMIT
COMP
REG
DET
TP351
TP350
Q203 2SC2021S
QR204 RTIP241S
QR203 RTIN241S
Q212 2SC1740S
Q213 2SC1740S
Q211 2SC1740S
Q210 2SC1740S
IC204 MSM6965RS
CCD 452 BIT COUNT
CLAMP
HI:ON
ZD201 HZ5A
Q214 2SA844CD
Q215 2SA844CD
CP204 3.6MHz L.P.F
RT201 2.2K-B
CCD LEVEL
QR210 RTIP241S
QR211 RTIN241S
D207 1SS119
IC301 HT4539B
D303 1SS119
D301 1SS119
CP301 COMB. FILTER
SUB CONV.
PB APC
KILLER
KILLER DET
SECAM
PB:HI
BPF LPF
PHASE DET
PLL VCO
321fH VCO
PB APC ΦDET
FREQ DISCRI
1/8
4Φ LOGIC
40fH LPF
SUB CONV.
506M BPF
PB MAIN CONV.
REC MAIN CONV
4.43MHz
REC APC ΦDET
AFC DET
1/321
1.5M LPF
4.43 MHz VCO
KILLER DET
1/2fH KILLER
BURST GATE GEN
BGP
ACC
ACC DET
AFC DET
FREQ DISCRI
4Φ LOGIC
SECAM/BURST SWITCH
CP302 4.43MHz B.P.F
RT301 4.7KB
RECORD CHROMA LEVEL
D302 1SS133
Q202 2SA844CD
IC201 HT4495
QR207 RTIP241S
QR201 RTIN241S
QR205 RTIN241S
QR206 RTIN241S
CP201 5MHz PEAKING
Q207 2SC535
Q206 2SA844CD
CP205 3.5MHz L.P.F
CP202 1.6MHz H.P.F
IC203 HT4727C
3MHz LPF
1.4M HPF
LPF HPF REF
FM AGC
DO DET
FM MOD
DYNAMIC /MAIN EMPH
W/D CLIP CLAMP
FM
1.4M H.P.F
MAIN DE-EMPH
FM DEMOD
LIMIT
CLAMP
CHROMA CANCEL
AGC
AGC DET KEYED CLAMP
DYNAMIC DEEMPH
NOISE CANCEL
EE
Y/C MIX
6dB AMP
CLIP
SYNC SEPA
KEYED CLAMP
EMPH SWITCH
MOD DEMOD
CP203 DELAY
Q205 2SC1740S
Q208 2SA844CD
D202, D203 1SS133x2
D202
D203

※ONE VOLTAGE: PB OR REC MODE, TWO VOLTAGES: PB AND (REC) MODES.


REC VIDEO
FEED BACK
SW 25Hz
IC303
BA7025L
IC301
HT4539B
CP301
COMB. FILTER
D303
1SS119
D301
1SS119
L352
100μH
TP350
Q213
2SC1740S
Q202
2SA844CD
IC204
MSM6965RS
Q215
2SA844CD
Q214
2SA844CD
CP204
3.6MHz L.P.F
RT201
2.2K-B
CCD LEVEL
D207
1SS119
PB APC KILLER
SUB CONV.
KILLER DET
SECAM
PB·Hi
BPF LPF
PHASE DET
PLL VCO
321fH VCO
PB APC φDET
FREQ DISCRI
1/8
4.43MHz
PB MAIN CONV.
REC APC φDET
AFC DET
1/321
4φ LOGIC
40fH LPF
SUB CONV.
5.06M BPF
REC MAIN CONV
4.43 MHz VCO
KILLER DET
1/2fH KILLER
BURST GATE GEN
ACC
ACC DET
1.5M LPF
CP302
4.43MHz B.P.F
RT301
47KB
RECORD CHROMA LEVEL
D302
1SS133
IC201
HT4495
Q207
2SC535
CP201
5MHz PEAKING
Q206
2SA844CD
CP205
3.5MHz L.P.F
3MHz LPF
1.4M HPF
LPF HPF REF
FM MOD
DYNAMIC /MAIN EMPH
W/D CLIP CLAMP
FM
1.4M H.P.F
FM AGC
MAIN DE-EMPH
FM DEMOD
LIMIT
DO DET
CLAMP
CHROMA CANCEL
AGC
AGC DET KEYED CLAMP
SYNC SEPA
DYNAMIC DEEMPH
NOISE CANCEL
Y/C MIX
6dB AMP
CLIP
EMPH SWITCH
MOD DEMOD
IC203
HT4727C
CP202
1.6MHz H.P.F
QR206
RTIN241S
Q208
2SA844CD
QR207
RTIP241S
QR201
RTIN241S
QR205
RTIN241S
CP203
DELAY EQ
Q205
2SC1740S
D202, D203
1SS133x2
IC205
HT4708
PICTURE CONTROL
REC AMP
AGC
AGC DET
YC MIX
GAIN CHARGE
NOISE CANCEL
D201
1SS133
REC9V
Q201
2SC1740S
Q209
2SA952
QR202
RTIN241S
PICTURE CONT.
CURRENT UP
TRICK PLAY
VIDEO
To SYSTEM CONTROL
To AUDIO/ REAR JACK
E - E
Y / CHROMA P. C. B

MODE, TWO VOLTAGES : PB AND (REC) MODES.

SCHEMATIC DIAGRAM	PAGE VT-125E/VT-135E
INTERNAL WIRING DIAGRAM	5-2/5-2
IF UNIT	5-4/5-4
TUNER UNIT	5-6/5-6
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VPS	5-10/5-10
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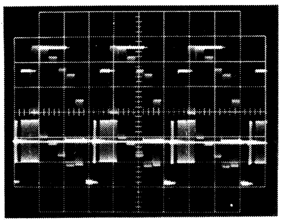
SYSTEM CONTROL	5-19/5-51
REMOTE CONTROL	5-23/5-55
AUDIO/REAR JACK	5-25/5-57
RF CONVERTER	5-28/5-60
PREAMP	5-29/5-61
SERVO	5-38/5-70
Y/CHROMA	5-41/5-73
REGULATOR	5-50/5-82

4 5 6 7 8 9 10 11

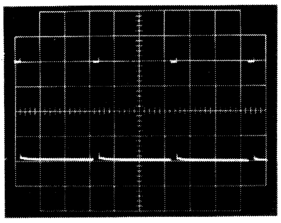
Y/CHROMA CIRCUIT WAVEFORMS (WELLENFORM)

[IC203] **(REC: Colour bar Video in/PB: Alignment tape)**

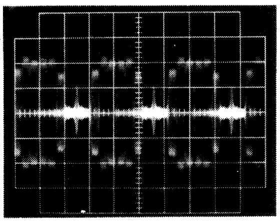
① PIN1 REC
0.1V/20µs. div.



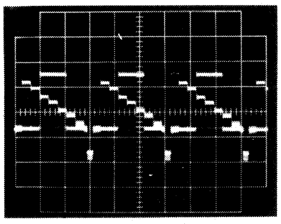
② PIN3 REC/PB
1V/20µs. div.



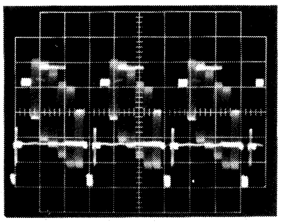
③ PIN5 PB
50mV/20µs. div.



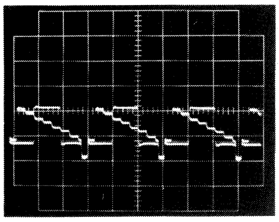
④ PIN7 REC/PB
0.1V/20µs. div.



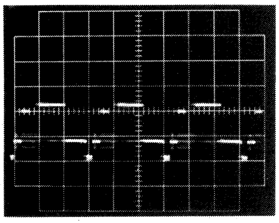
⑤ PIN8 REC
50mV/20µs. div.



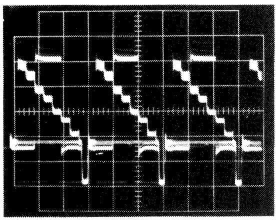
⑥ PIN8 PB
0.5V/20µs. div.



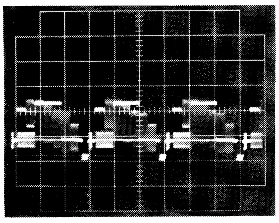
⑦ PIN9 REC
0.1V/20µs. div.



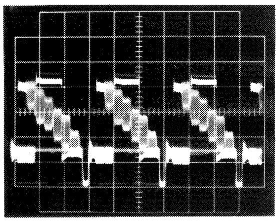
⑧ PIN9 PB
0.2V/20µs. div.



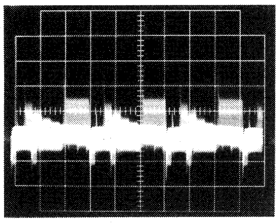
⑨ PIN11 REC
0.1V/20µs. div.



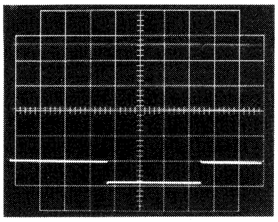
⑩ PIN11 PB
0.5V/20µs. div.



⑪ PIN14 PB
0.2V/20µs. div.

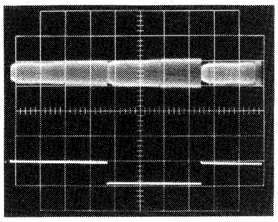


⑫ PIN16 PB
0.5V/5ms. div.



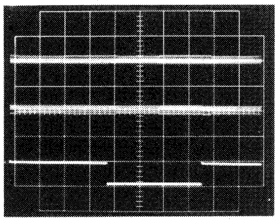
(SW25Hz: 5Vdiv.)

⑬ PIN18 PB
0.5V/5ms. div.



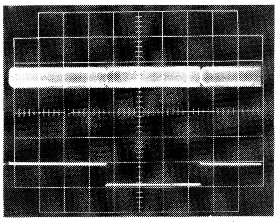
(SW25Hz: 5Vdiv.)

⑭ PIN19 REC
0.5V/5ms. div.



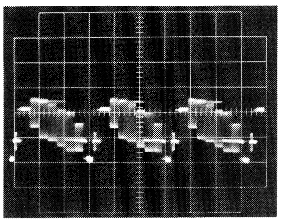
(SW25Hz: 5Vdiv.)

⑮ PIN20 PB
0.5V/5ms. div.

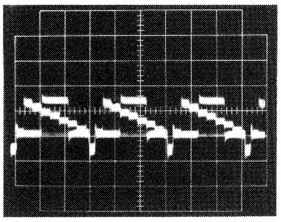


(SW25Hz: 5Vdiv.)

⑯ PIN27 REC
0.1V/20µs. div.

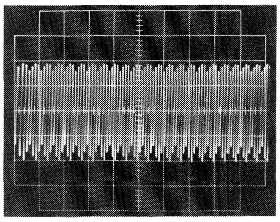


⑰ PIN27 PB
0.1V/20µs. div.

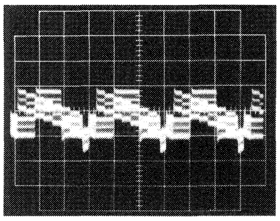


[IC204]

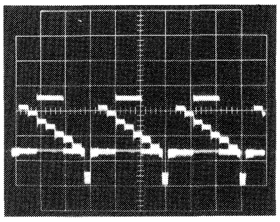
⑱ PIN3 PB
0.2V/0.5μs. div.



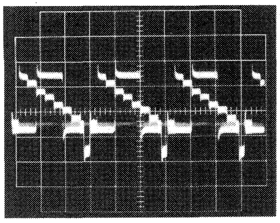
⑲ PIN4 PB
0.5V/20μs. div.



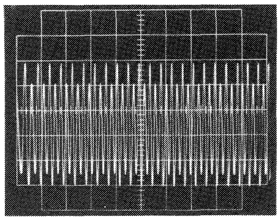
⑳ PIN6 REC
0.1V/20μs. div.



㉑ PIN6 PB
0.1V/20μs. div.

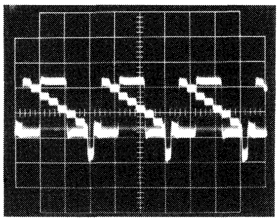


㉒ PIN7 PB
0.1V/0.5μs. div.

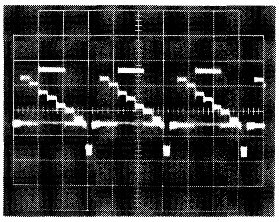


[IC205]

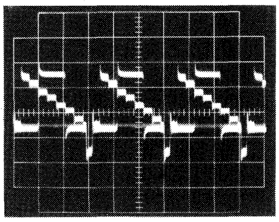
㉓ PIN3 PB
0.1V/20μs. div.



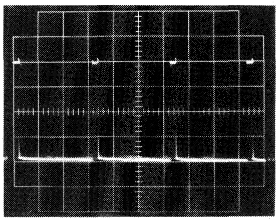
㉔ PIN 4 REC
10mV/20μs. div.



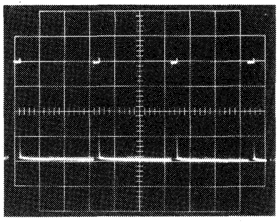
㉕ PIN4 PB
10mV/20μs. div.



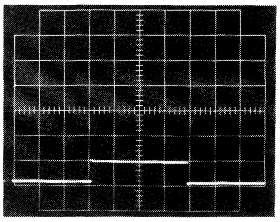
㉖ PIN9 REC/PB
1V/20μs. div.



㉗ PIN13 REC/PB
1V/20μs. div.

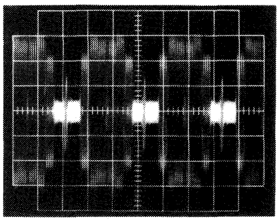


㉘ PIN16 REC
0.5V/5ms. div.

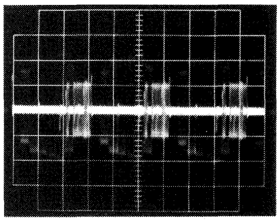


(SW25Hz: 5Vdiv.)

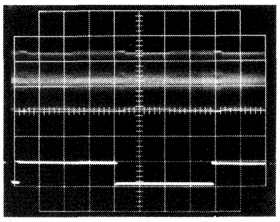
㉙ PIN18 REC
20mV/20μs. div.



㉚ PIN21 REC
50mV/20μs. div.

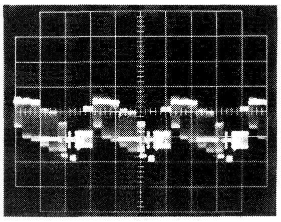


㉛ PIN22 REC
0.2V/5ms. div.

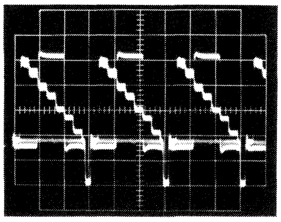


(SW25Hz: 5Vdiv.)

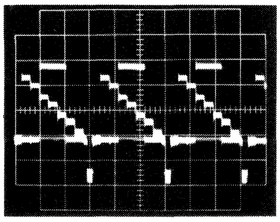
㉜ PIN24 REC
0.1V/20μs. div.



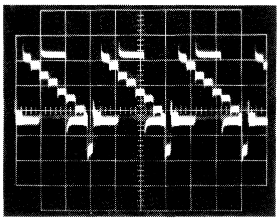
㉝ PIN24 PB
0.2V/20μs. div.



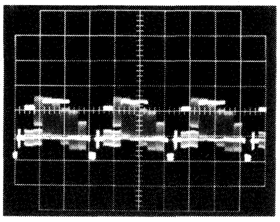
㉞ PIN25 REC
0.1V/20μs. div.



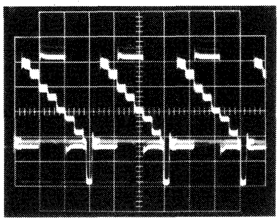
㉟ PIN25 PB
0.1V/20μs. div.



㊱ PIN27 REC
0.1V/20μs. div.

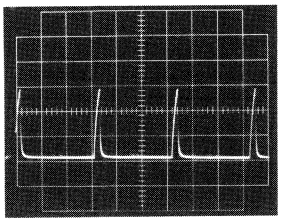


㊲ PIN27 PB
0.2V/20μs. div.

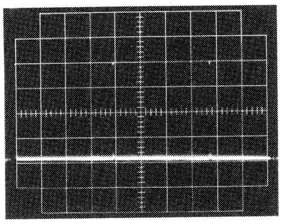


[IC301]

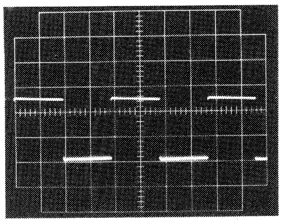
㊳ PIN1 REC
1V/20μs. div.



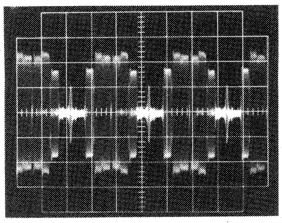
㊴ PIN1 PB
1V/0.5ms. div.



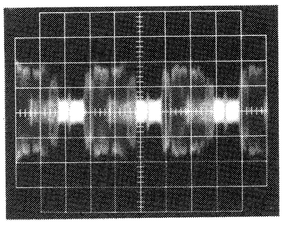
㊵ PIN5 REC/PB
0.5V/10ms. div.



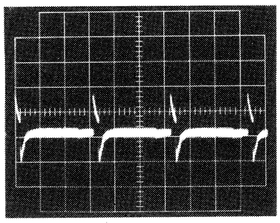
㊶ PIN6 REC
0.1V/20μs. div.



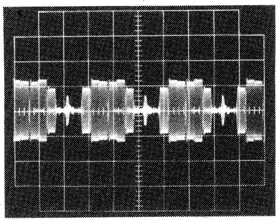
㊷ PIN6 PB
20mV/20μs. div.



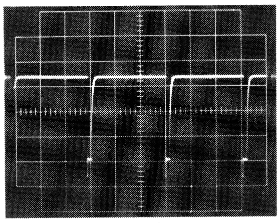
㊸ PIN7 REC/PB
0.1V/20μs. div.



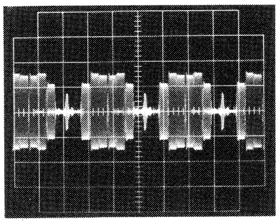
㊹ PIN8 REC/PB
50mV/20μs. div.



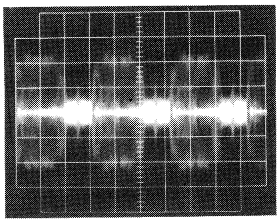
㊺ PIN9 REC/PB
1V/20μs. div.



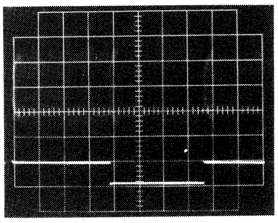
㊻ PIN11 REC
0.2V/20μs. div.



㊼ PIN11 PB
0.2V/20μs. div.

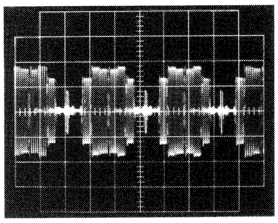


㊽ PIN12 PB
50mV/0.5ms. div.

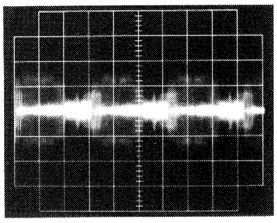


(SW25Hz: 5Vdiv.)

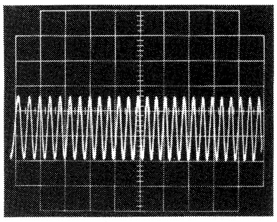
㊾ PIN14 REC
0.1V/20μs. div.



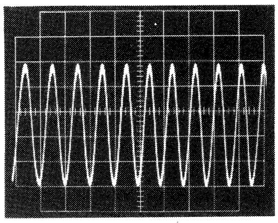
㊿ PIN14 PB
50mV/20μs. div.



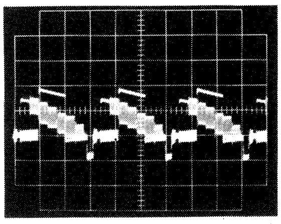
(51) PIN15 REC
0.1V/0.5μs. div.



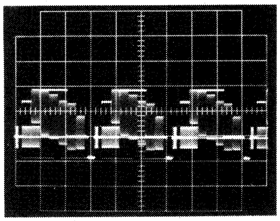
(52) PIN15 PB
50mV/0.2μs. div.



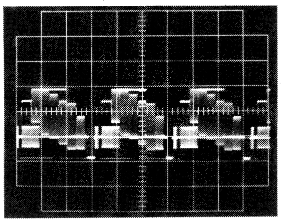
(53) PIN16 REC
0.2V/20μs. div.



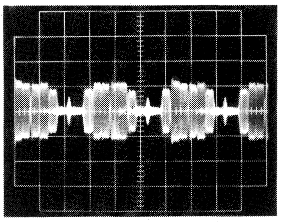
(54) PIN18 REC
0.2V/20μs. div.



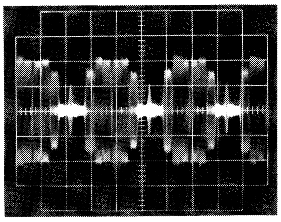
(55) PIN18 PB
0.2V/20μs. div.



(56) PIN20 PB
50mV/20μs. div.

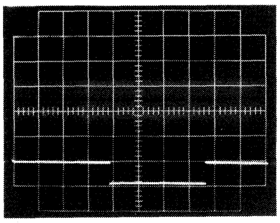


(57) PIN22 PB
0.1V/20μs. div.



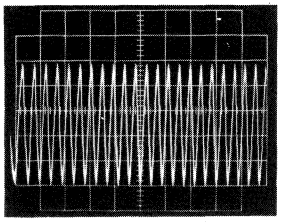
[IC301]

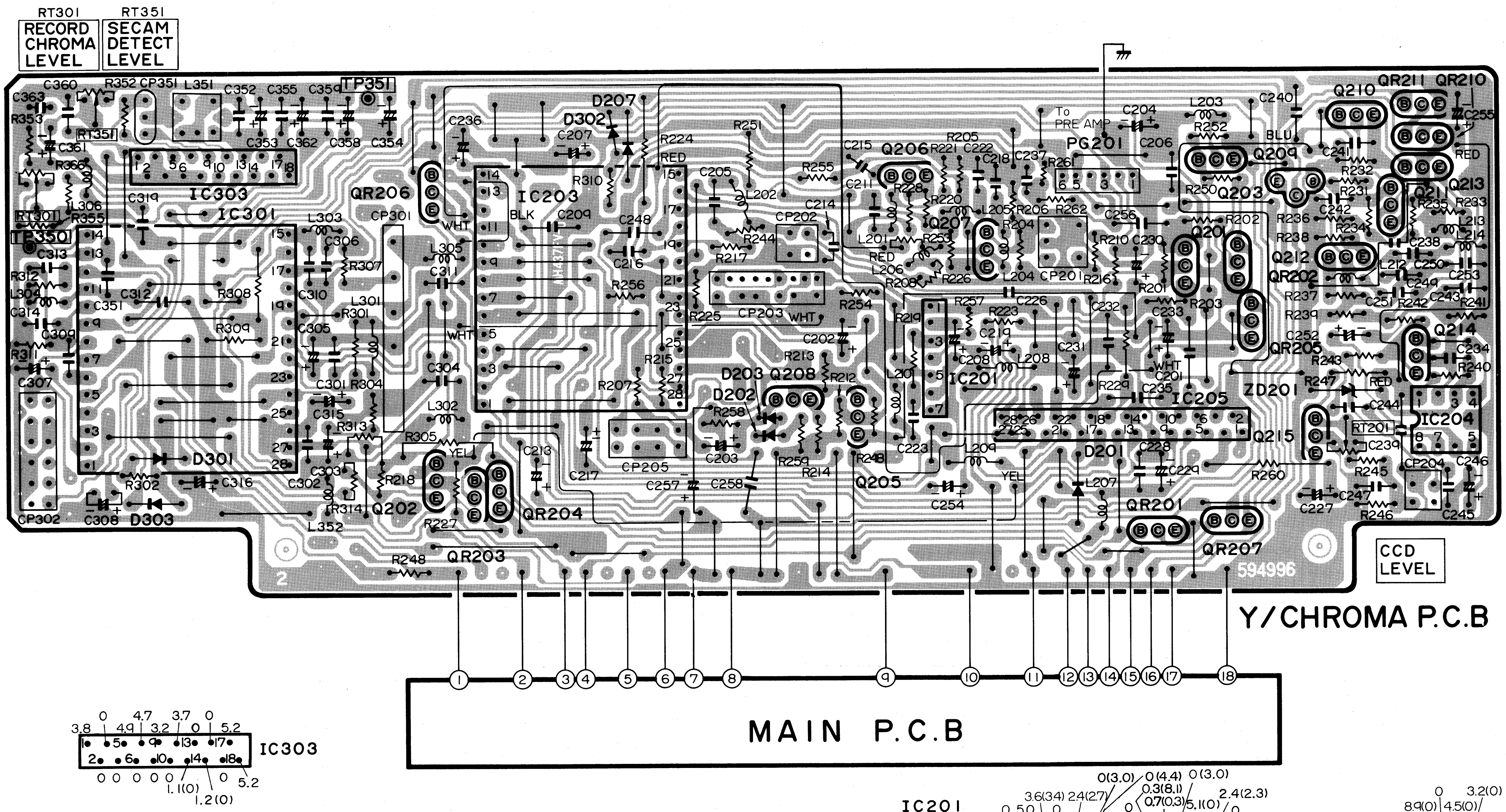
(58) PIN25 PB
0.1V/5ms. div.



(SW25Hz: 5Vdiv.)

(59) PIN27 REC/PB
50mV/0.5μs. div.




RT301
RECORD CHROMA LEVEL
RT351
SECAM DETECT LEVEL
TP351
TP350
IC303
IC301
IC203
IC201
IC205
IC204
To PRE AMP
PG201
CCD LEVEL
594996
Y/CHROMA P.C.B
MAIN P.C.B
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18

IC303
3.8
0
4.9
4.7
3.2
3.7
0
0
5.2
0 0 0 0 0
1.1(0)
1.2(0)
0
5.2

IC301

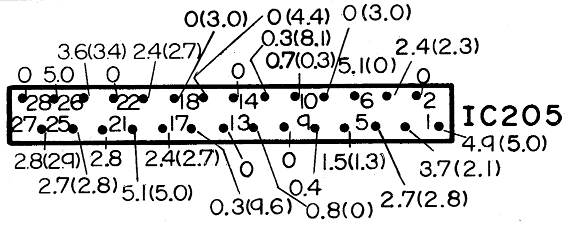
Pin	Voltage	Pin	Voltage
14	0	15	3.5
13	0	16	0.1(0)
12	4.5	17	5.1(0)
11	3.0	18	3.6
10	0.6	19	2.3
9	4.7	20	0
8	0	21	5.2
7	0	22	3.8(4.6)
6	3.3(3.2)	23	2.9(2.4)
5	0.7	24	2.9
4	2.8(2.3)	25	4.2
3	2.2	26	0
2	2.7(2.9)	27	1.4
1	0.9	28	0

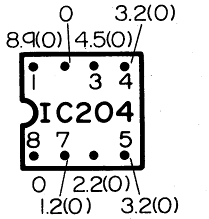
IC203

Pin	Voltage	Pin	Voltage
14	4.3(1.7)	15	0
13	2.8(2.6)	16	2.3(2.1)
12	5.1(0)	17	2.4(2.7)
11	2.2(2.1)	18	0
10	1.4	19	4.2(3.1)
9	3.0(2.7)	20	3.3(3.1)
8	2.6(2.4)	21	0
7	2.9(2.3)	22	0
6	5.1(5.0)	23	3.2(3.0)
5	0	24	3.3
4	3.2(2.8)	25	1.9
3	0.4	26	2.6(2.5)
2	1.5(4.1)	27	2.8(2.4)
1	3.6	28	0.1(0)

IC201

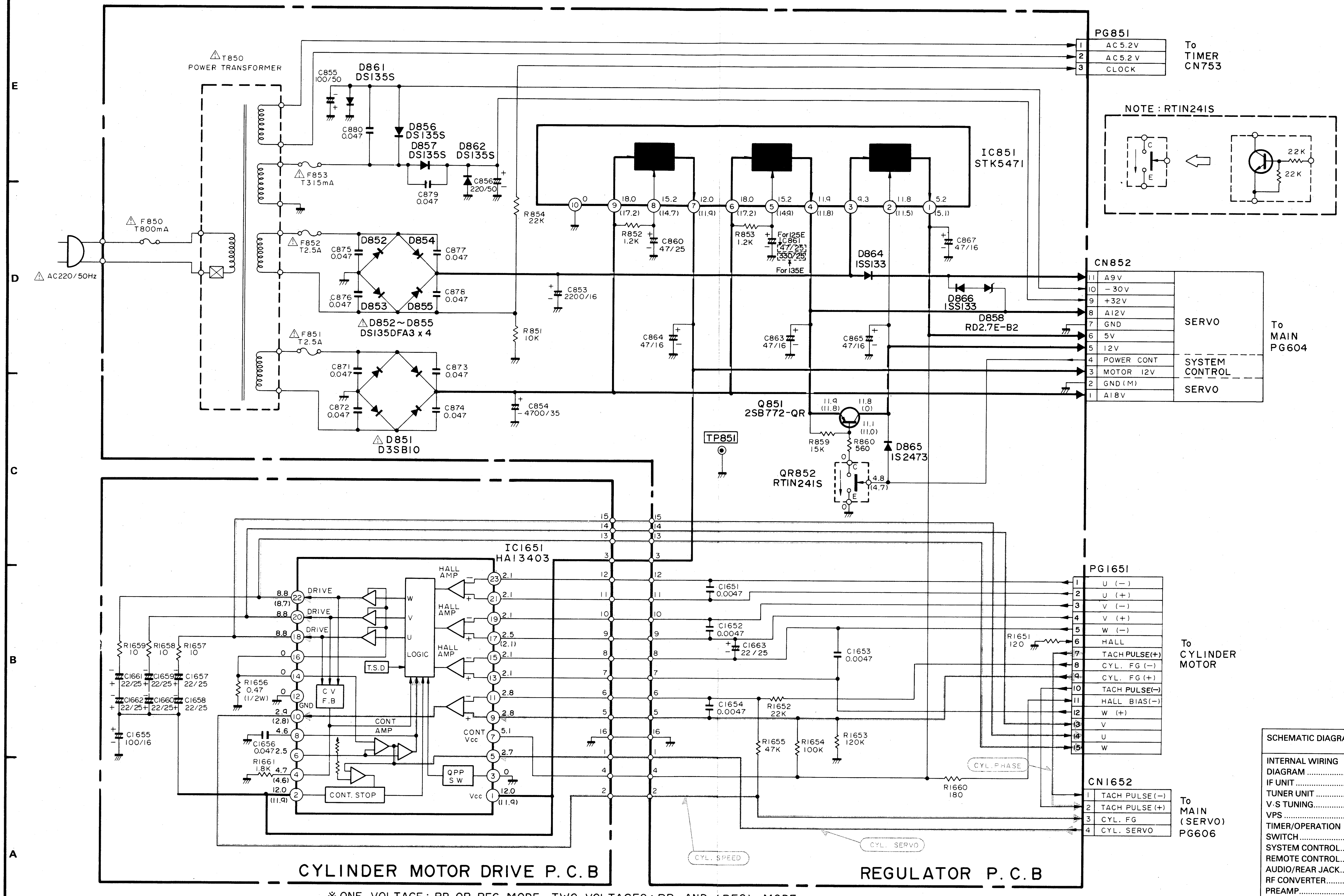
Pin	Voltage
1	0
2	1.7
3	1.1
4	2.4
5	2.6
6	3.0
7	5.0


IC205
0(3.0)
0(4.4)
0(3.0)
0.3(8.1)
0.7(0.3)
5.1(0)
2.4(2.3)
3.6(3.4)
2.4(2.7)
0
0
0 5.0
0
4.9(5.0)
3.7(2.1)
2.7(2.8)
1.5(1.3)
0
0.4
0.8(0)
0.3(9.6)
0
2.4(2.7)
5.1(5.0)
2.8
2.8(2.9)
2.7(2.8)


IC204
0
3.2(0)
8.9(0)
4.5(0)
0
2.2(0)
1.2(0)
3.2(0)

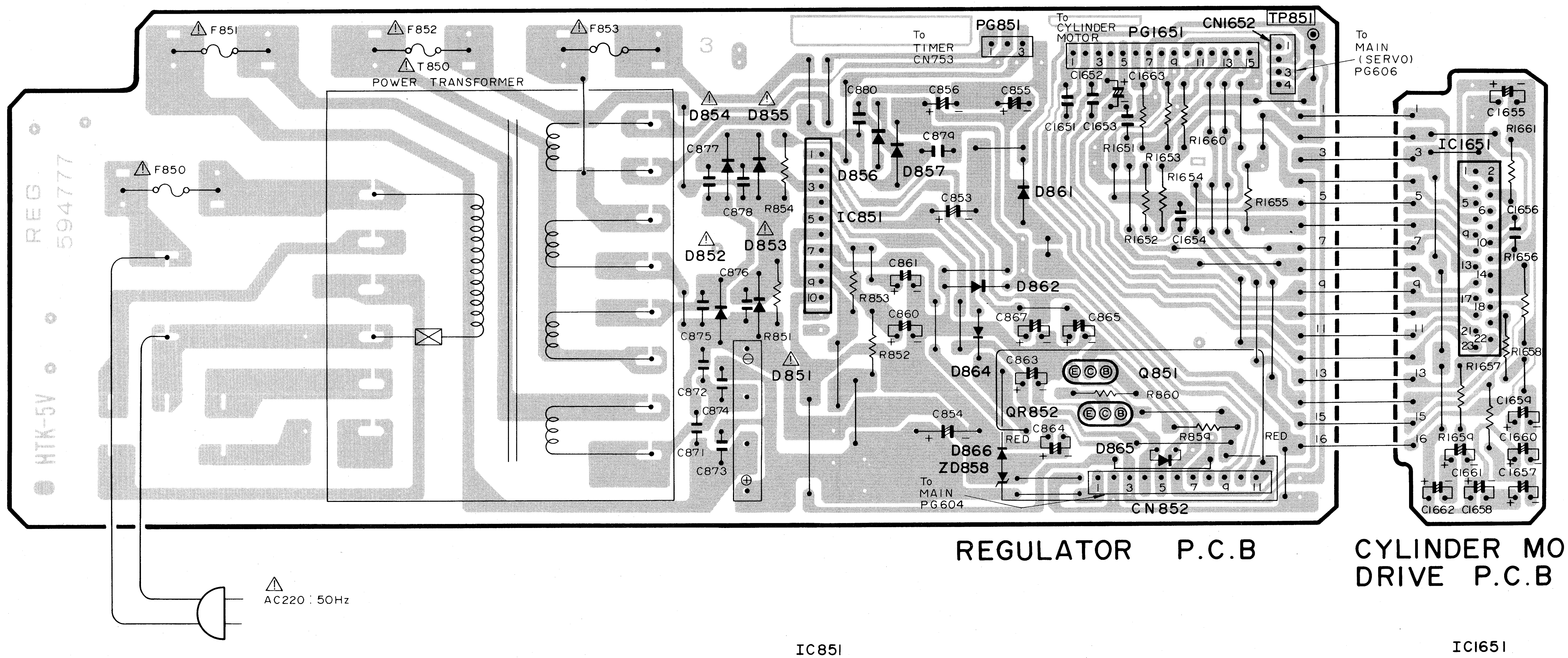
※ ONE VOLTAGE : PB OR REC MODE.
TWO VOLTAGES : PB AND (REC) MODES.

REGULATOR (REGLER)


T850 POWER TRANSFORMER
F850 T800mA
AC220/50Hz
F853 T315mA
F852 T2.5A
F851 T2.5A
C855 100/50
D861 DS135S
C880 0.047
D856 DS135S
D857 DS135S
D862 DS135S
C879 0.047
C856 220/50
C875 0.047
C876 0.047
C877 0.047
C878 0.047
D852 D854 D853 D855
D852~D855 DS135DFA3 x 4
C871 0.047
C872 0.047
C873 0.047
C874 0.047
D851 D3SB10
C853 2200/16
C854 4700/35
R854 22K
R851 10K
IC851 STK5471
R852 1.2K
C860 47/25
R853 1.2K
C861 For125E 47/25 330/25 For135E
D864 1SS133
C867 47/16
C864 47/16
C863 47/16
C865 47/16
D866 1SS133
D858 RD2.7E-B2
Q851 2SB772-QR
R859 15K
R860 560
D865 1S2473
QR852 RTIN241S
TP851
NOTE : RTIN241S
22K
PG851
AC5.2V
AC5.2V
CLOCK
To TIMER CN753
CN852
A9V
-30V
+32V
A12V
GND
5V
12V
POWER CONT
MOTOR 12V
GND(M)
A18V
SERVO
SYSTEM CONTROL
SERVO
To MAIN PG604
IC1651 HA13403
HALL AMP
DRIVE
LOGIC
T.S.D
CV F.B
CONT AMP
CONT Vcc
QPP SW
CONT. STOP
GND
Vcc
R1659 10
R1658 10
R1657 10
R1656 0.47 (1/2W)
C1661 22/25
C1659 22/25
C1657 22/25
C1662 22/25
C1660 22/25
C1658 22/25
C1655 100/16
C1656 0.047
R1661 1.8K
C1651 0.0047
C1652 0.0047
C1663 22/25
C1653 0.0047
C1654 0.0047
R1652 22K
R1655 47K
R1654 100K
R1653 120K
R1651 120
R1660 180
PG1651
U (-)
U (+)
V (-)
V (+)
W (-)
HALL
TACH PULSE(+)
CYL. FG (-)
CYL. FG (+)
TACH PULSE(-)
HALL BIAS(-)
W (+)
V
U
W
To CYLINDER MOTOR
CN1652
TACH PULSE(-)
TACH PULSE(+)
CYL. FG
CYL. SERVO
To MAIN (SERVO) PG606
CYL. PHASE
CYL. SPEED
CYL. SERVO
CYLINDER MOTOR DRIVE P.C.B
REGULATOR P.C.B
A B C D E
1 2 3 4 5 6 7 8

※ ONE VOLTAGE: PB OR REC MODE. TWO VOLTAGES: PB AND (REC) MODE.

SCHEMATIC DIAGRAM	PAGE VT-125E/VT-135E
INTERNAL WIRING DIAGRAM	5-2/5-2
IF UNIT	5-4/5-4
TUNER UNIT	5-6/5-6
V·S TUNING	5-7/5-7
VPS	5-10/5-10
TIMER/OPERATION SWITCH	5-13/5-13
SYSTEM CONTROL	5-19/5-51
REMOTE CONTROL	5-23/5-55
AUDIO/REAR JACK	5-25/5-57
RF CONVERTER	5-28/5-60
PREAMP	5-29/5-61
SERVO	5-38/5-70
Y/CHROMA	5-41/5-73
REGULATOR	5-50/5-82


F851
F852
T850
POWER TRANSFORMER
F853
F850
REG. 594777
HTK-5V
D854
D855
C877
C878
R854
D852
D853
C876
C875
R851
D851
C872
C874
C871
C873
D856
D857
C880
C856
C855
C879
IC851
C853
D861
R853
C861
C860
R852
D862
C867
C865
D864
C863
Q851
R860
QR852
C854
C864
RED
D866
ZD858
D865
R859
To MAIN PG604
CN852
To TIMER CN753
PG851
To CYLINDER MOTOR
PG1651
CN1652
TP851
To MAIN (SERVO) PG606
C1652
C1663
C1651
C1653
R1651
R1653
R1660
R1654
R1655
R1652
C1654
C1655
R1661
IC1651
C1656
R1656
R1658
R1657
C1659
R1659
C1660
C1661
C1657
C1662
C1658
AC220 : 50Hz

REGULATOR P.C.B

CYLINDER MOTOR DRIVE P.C.B

IC851

Pin	Voltage
1	5.2 (5.1)
2	11.8 (11.5)
3	9.3
4	11.9 (11.8)
5	15.2 (14.9)
6	18.0 (17.2)
7	12.0 (11.9)
8	15.2 (14.7)
9	18.0 (17.2)
10	0

※ ONE VOLTAGE : PB OR REC MODE.
TWO VOLTAGES: PB AND (REC) MODE.

IC1651

Voltage	Pin	Pin	Voltage
12.0 (11.9)	1	2	12.0 (11.9)
0	3	4	4.7 (4.6)
2.7	5	6	2.5
5.1	7	8	4.6
2.8	9	10	2.9 (2.8)
2.8	11	12	0
2.1	13	14	0
2.1	15	16	0
2.5 (2.1)	17	18	8.8
2.1	19	20	8.8
2.1	21	22	8.8 (8.7)
2.1	23		

CHAPTER 6

REPLACEMENT PARTS LIST (ERSATZTEILLISTE)

ELECTRICAL PARTS LIST [For VT-125E (VPS)]

SYMBOL-NO.	P-NO.	DESCRIPTION
CAPACITORS		
C201	0208374	CERAMIC DISC 0.01μF ±20% 50V
C203	0256614	ELECTROLYTIC 10μF 16V
C206	0208375	CERAMIC DISC 0.022μF ±10% 50V
C209	0208375	CERAMIC DISC 0.022μF ±10% 50V
C211	0208357	CERAMIC DISC 56pF ±5% 50V
C213	0256135	ELECTROLYTIC 10μF 16V
C214	0239357	CERAMIC DISC 56pF ±5% 50V
C215	0239355	CERAMIC DISC 39pF ±5% 50V
C217	0256834	ELECTROLYTIC 10μF 16V
C218	0208364	CERAMIC DISC 470 pF ±10% 50V
C221	0208352	CERAMIC DISC 22pF 50V
C222	0208355	CERAMIC DISC 39pF 50V
C228	0208375	CERAMIC DISC 0.022μF ±10% 50V
C232	0208375	CERAMIC DISC 0.022μF ±10% 50V
C234	0208375	CERAMIC DISC 0.022μF ±10% 50V
C235	0208375	CERAMIC DISC 0.022μF ±10% 50V
C242	0208374	CERAMIC DISC 0.01μF ±20% 50V
C243	0239375	CERAMIC DISC 10000pF ± 20%
C244	0208374	CERAMIC DISC 0.01μF ±20% 50V
C245	0208374	CERAMIC DISC 0.01μF ±20% 50V
C246	0256613	ELECTROLYTIC 4.7μF 35V
C247	0208354	CERAMIC DISC 33pF ±5% 50V
C248	0208374	CERAMIC DISC 0.01μF ±20% 50V
C249	0208357	CERAMIC DISC 56pF 50V
C250	0208359	CERAMIC DISC 82pF 50V
C251	0208350	CERAMIC DISC 15pF ±5% 50V
C252	0256611	ELECTROLYTIC 0.33μF 50V
C253	0208356	CERAMIC DISC 47pF 50V
C256	0208374	CERAMIC DISC 0.01μF ±20% 50V
C257	0256194	ELECTROLYTIC 470MF 10V
C301	0208351	CERAMIC DISC 18pF 50V
C303	0256614	ELECTROLYTIC 10μF 16V
C305	0256194	ELECTROLYTIC 470MF 10V
C308	0256614	ELECTROLYTIC 10μF 16V
C310	0208362	CERAMIC DISC 220pF ±10% 50V
C311	0208374	CERAMIC DISC 0.01μF ±20% 50V
C312	0239363	CERAMIC DISC 330pF ±10%
C317	0208355	CERAMIC DISC 39pF ±5% 50V
C406	0256606	ELECTROLYTIC 1MF 50V
C416	0208367	CERAMIC DISC 1000pF ±10% 50V
C419	0256622	ELECTROLYTIC 33MF 16V
C422	0256196	ELECTROLYTIC 100μF 16V
C423	0208374	CERAMIC DISC 0.01μF ±20% 50V
C425	0256196	ELECTROLYTIC 100μF 16V
C426	0208374	CERAMIC DISC 0.01μF ±10% 50V
C428	0208365	CERAMIC DISC 680pF ±10% 50V
C430	0256622	ELECTROLYTIC 33MF 16V
C431	0208374	CERAMIC DISC 0.01μF ±20% 50V
C433	0256614	ELECTROLYTIC 10μF 16V
C434	0256606	ELECTROLYTIC 1MF 50V
C451	0256627	ELECTROLYTIC 47MF 16V
C452	0208375	CERAMIC DISC 0.022μF ±10% 50V

SYMBOL-NO.	P-NO.	DESCRIPTION
C502	0208374	CERAMIC DISC 0.01μF ±20% 50V
C506	0208374	CERAMIC DISC 0.01μF ±20% 50V
C508	0208374	CERAMIC DISC 0.01μF ±20% 50V
C510	0208374	CERAMIC DISC 0.01μF ±20% 50V
C512	0208374	CERAMIC DISC 0.01μF ±20% 50V
C513	0256789	CAPACITOR 470μF 10V ELECTROLYTIC
C519	0256135	ELECTROLYTIC 10μF 16V
C523	0208374	CERAMIC DISC 0.01μF ±20% 50V
C524	0256782	ELECTROLYTIC 220μF 10V
C527	0208374	CERAMIC DISC 0.01μF ±20% 50V
C529	0208374	CERAMIC DISC 0.01μF ±20% 50V
C604	0208374	CERAMIC DISC 0.01μF ±20% 50V
C607	0208368	CERAMIC DISC 1500pF ±20% 50V
C608	0208365	CERAMIC DISC 680pF ±10% 50V
C616	0208367	CERAMIC DISC 1000pF ±10% 50V
C618	0208375	CERAMIC DISC 0.022 μF ±10% 50V
C620	0208375	CERAMIC DISC 0.022μF ±10% 50V
C621	0208374	CERAMIC DISC 0.01μF ±20% 50V
C624	0208374	CERAMIC DISC 0.01μF ±20% 50V
C637	0208375	CERAMIC DISC 0.022μF ±10% 50V
C638	0208374	CERAMIC DISC 0.01μF ±20% 50V
C641	0256475	TANTALUM 4.7μF ±30% 10V
C642	0208374	CERAMIC DISC 0.01μF ±20% 50V
C644	0208367	CERAMIC DISC 1000pF ±10% 50V
C652	0256617	ELECTROLYTIC 22MF 10V
C653	0208360	CERAMIC DISC 100pF ±5% 50V
C656	0208374	CERAMIC DISC 0.01μF ±20% 50V
C657	0208374	CERAMIC DISC 0.01μF ±20% 50V
C658	0208374	CERAMIC DISC 0.01μF ±20% 50V
C677	0208375	CERAMIC DISC 0.022μF ±10% 50V
C751	0256488	CAPACITOR 0.1F 5.5V
C752	0256626	ELECTROLYTIC 47MF 6.3V
C753	0208374	CERAMIC DISC 0.01μF ±20% 50V
C754	0256626	ELECTROLYTIC 47μF 6.3V
C755	0208374	CERAMIC DISC 0.01μF ±20% 50V
C756	0256606	ELECTROLYTIC 1MF 50V
C757	0256612	ELECTROLYTIC 0.47μF 50V
C760	0256626	ELECTROLYTIC 47MF 6.3V
C761	0256612	ELECTROLYTIC 0.47μF 50V
C762	0239348	CERAMIC DISC 10pF ±5% 50V
C763	0208348	CERAMIC DISC 10pF ±5% 50V
C770	5058562	TRIMMER 22pF
C801	0208357	CERAMIC DISC 56pF ±5% 50V
C805	0208374	CERAMIC DISC 0.01μF ±20% 50V
C810	0208374	CERAMIC DISC 0.01μF ±20% 50V
C815	0208360	CERAMIC DISC 100pF ±5% 50V
C816	0208354	CERAMIC DISC 33pF ±5% 50V
C817	0208354	CERAMIC DISC 33pF ±5% 50V
C819	0208374	CERAMIC DISC 0.01μF ±20% 50V
C821	0208374	CERAMIC DISC 0.01μF ±20% 50V
C825	0256180	ELECTROLYTIC 1μF 50V
C827	0208374	CERAMIC DISC 0.01μF ±20% 50V
C830	0208374	CERAMIC DISC 0.01μF ±20% 50V
C854	0256657	ELECTROLYTIC 4700μF 35V
C856	0256635	ELECTROLYTIC 220μF 50V
C860	0256607	ELECTROLYTIC 47μF 25V

SYMBOL-NO.	P-NO.	DESCRIPTION
C861	0256607	ELECTROLYTIC 47μF 25V
C863	0256627	ELECTROLYTIC 47MF, 16V
C864	0256627	ELECTROLYTIC 47MF, 16V
C865	0256627	ELECTROLYTIC 47MF, 16V
C867	0256627	ELECTROLYTIC 47MF, 16V
C901	0208374	CERAMIC DISC 0.01μF ±20% 50V
C902	0208375	CERAMIC DISC 0.022μF ±20% 50V
C903	0208375	CERAMIC DISC 0.022μF ±20% 50V
C904	0208374	CERAMIC DISC 0.01μF ±20% 50V
C906	0208374	CERAMIC DISC 0.01μF ±20% 50V
C907	0208375	CERAMIC DISC 0.022μF ±20% 50V
C908	0208374	CERAMIC DISC 0.01μF ±20% 50V
C909	0208354	CERAMIC DISC 33pF ±5% 50V
C910	0208354	CERAMIC DISC 33pF ±5% 50V
C912	0208374	CERAMIC DISC 0.01μF ±20% 50V
C913	0208374	CERAMIC DISC 0.01μF ±20% 50V
C921	0208375	CERAMIC DISC 0.022μF ±10% 50V
C922	0208375	CERAMIC DISC 0.022μF ±10% 50V
C923	0208375	CERAMIC DISC 0.022μF ±10% 50V
C1657	0256618	ELECTROLYTIC 22μF 25V
C1658	0256618	ELECTROLYTIC 22μF 25V
C1659	0256618	ELECTROLYTIC 22μF 25V
C1660	0256618	ELECTROLYTIC 22μF 25V
C1661	0256618	ELECTROLYTIC 22μF 25V
C1662	0256618	ELECTROLYTIC 22μF 25V
C1663	0256618	ELECTROLYTIC 22μF 25V
C1655	0256196	ELECTROLYTIC 100μF 16V

RESISTORS

SYMBOL-NO.	P-NO.	DESCRIPTION
R305	0171015	METAL FILM 68OHM ±5% 1W
R602	0249681	POSISTOR 4.7OHM
R1656	0149705	RESISTOR METAL OXIDE 470OHM
RT201	5007433	RESISTOR SEMI VARIABLE 2.2KOHM
RT301	5007434	RESISTOR SEMI VARIABLE 4.7KOHM
RT351	5007431	RESISTOR SEMI VARIABLE 470OHM
RT401	5007899	SEMI VARIABLE 47KOHM
RT402	5007901	SEMI VARIABLE 100KOHM
RT501	5009142	RESISTOR VARIABLE 50KOHM
RT601	5007899	SEMI VARIABLE 47KOHM
RT607	5007902	SEMI VARIABLE 220KOHM
RV751	5027225	RESISTOR VARIABLE 10KOHM
RV752	5009131	VARIABLE 500KOHM

SEMI-CONDUCTORS

SYMBOL-NO.	P-NO.	DESCRIPTION
D201	5339071	DIODE 1SS119
D202	5331592	DIODE 1SS133
D203	5331592	DIODE 1SS133
D204	5339071	DIODE 1SS119
D207	5339071	DIODE 1SS119
D301	5339071	DIODE 1SS119
D302	5331592	DIODE 1SS133
D303	5339071	DIODE 1SS119
D401	5339091	DIODE DAN209
D402	5339131	DIODE 1SS254
D403	5339071	DIODE 1SS119
D404	5339071	DIODE 1SS119
D502	5339071	DIODE 1SS119
D503	5339071	DIODE 1SS119
D504	5339071	DIODE 1SS119
D505	5339071	DIODE 1SS119

SYMBOL-NO.	P-NO.	DESCRIPTION
D506	5339071	DIODE 1SS119
D507	5339071	DIODE 1SS119
D508	5332681	DIODE 1SS119
D605	5339071	DIODE 1SS119
D609	5339071	DIODE 1SS119
D610	5339071	DIODE 1SS119
D619	5339071	DIODE 1SS119
D620	5339071	DIODE 1SS119
D622	5339071	DIODE 1SS119
D623	5339071	DIODE 1SS119
D628	5339071	DIODE 1SS119
D629	5339071	DIODE 1SS119
D631	5339071	DIODE 1SS119
D640	5339071	DIODE 1SS119
D645	5339071	DIODE 1SS119
D651	5339071	DIODE 1SS119
D652	5339071	DIODE 1SS119
D653	5339071	DIODE 1SS119
D751	5339021	DIODE 1SS133
D752	5339021	DIODE 1SS133
D753	5339021	DIODE 1SS133
D754	5331592	DIODE 1SS133
D760	5331592	DIODE 1SS133
D764	5381211	LED SEL-2213C
D801	5339071	DIODE 1SS119
D802	5339071	DIODE 1SS119
D803	5339071	DIODE 1SS119
D804	5339071	DIODE 1SS119
D805	5339071	DIODE 1SS119
D806	5339071	DIODE 1SS119
⚠ D851	5332741	DIODE D3SB10
⚠ D852	5331671	DIODE DS135D-FA3
⚠ D853	5331671	DIODE DS135D-FA3
⚠ D854	5331671	DIODE DS135D-FA3
⚠ D855	5331671	DIODE DS135D-FA3
D856	5331671	DIODE DS135D-FA3
D857	5331671	DIODE DS135D-FA3
D858	5331588	DIODE RD2.7E-B2
D861	5331671	DIODE DS135D-FA3
D862	5331671	DIODE DS135D-FA3
D864	5339021	DIODE 1SS133
D865	5330571	DIODE 1S2473VE SI 100MHZ 250MW 10NS
D866	5331592	DIODE 1SS133
D903	5339071	DIODE 1SS119
D904	5339071	DIODE 1SS119
D914	5339071	DIODE 1SS119
IC201	5370821	IC HT4495
IC203	5370844	IC HT4727
IC204	5362262	IC MSM6965RS
IC205	5370501	IC HT4708
IC301	5370273	IC HT4539B
IC303	5366641	IC BA7025L
IC401	5366331	IC UPC1533HA
IC402	5364931	IC BA5115L
IC403	5369431	IC LA7016
IC501	5369431	IC LA7016
IC505	5721802	IC PROTECTOR
IC601	5367301	IC M54898P
IC602	5369913	IC M54648L-B
IC751	5368683	IC HD614085SA15
IC801	5361834	IC M50161-354SP

SYMBOL-NO.	P-NO.	DESCRIPTION
IC802	5366132	IC LA7934
IC803	5361071	IC M58657P
IC804	5721802	ICP-N5 IC PROTECTOR
IC805	5721802	ICP-N5 IC PROTECTOR
IC851	5353651	IC STK5471
IC901	5361812	IC HD614042SD37
IC902	5367111	IC M54649L
IC903	5365673	IC NJM2901N
IC1101	5367211	IC SAA5235
IC1102	5362241	IC SAF1134P
IC1651	5355582	IC HA13403
Q141	5381681	TRANSISTOR PT-23F-F PHOTO
Q142	5381682	TRANSISTOR PT-23F-HLD PHOTO
Q201	5327062	TRANSISTOR 2SC1740S
Q202	5321255	TRANSISTOR 2SA844CD SILICON 200MHZ 0.3W
Q203	5321292	TRANSISTOR 2SC1740S SILICON 250MHZ 0.3W
Q205	5321292	TRANSISTOR 2SC1740S
Q206	5321255	TRANSISTOR 2SA844CD
Q207	0573511	TRANSISTOR 2SC535C
Q208	5321255	TRANSISTOR 2SA844CD
Q209	5322732	TRANSISTOR 2SA952ML2 SILICON 160MHZ 0.6W
Q210	5321292	TRANSISTOR 2SC1740S
Q211	5321292	TRANSISTOR 2SC1740S
Q212	5327062	TRANSISTOR 2SC1740S
Q213	5327062	TRANSISTOR 2SC1740S
Q214	5321255	TRANSISTOR 2SA844CD SILICON 200MHZ 0.3W
Q215	5321255	TRANSISTOR 2SA844CD SILICON 200MHZ 0.3W
Q401	5327101	TRANSISTOR 2SC3553BC
Q402	5327031	TRANSISTOR 2SA673C
Q431	5327031	TRANSISTOR 2SA673C
Q502	5327031	TRANSISTOR 2SA673C
Q504	5322732	TRANSISTOR 2SA952ML2 SILICON 160MHZ 0.6W
Q505	5320069	TRANSISTOR 2SC458-CD
Q611	5320069	TRANSISTOR 2SC458CD
Q612	5327001	TRANSISTOR 2SC458CD
Q613	5323461	TRANSISTOR 2SD1266PQ
Q614	5320069	TRANSISTOR 2SC458CD
Q615	5327031	TRANSISTOR 2SA673C
Q616	5327001	TRANSISTOR 2SC458CD
Q626	5320069	TRANSISTOR 2SC458CD
Q627	5327001	TRANSISTOR 2SC458CD
Q751	5321663	TRANSISTOR 2SC2021RS SILICON 180MHZ 0.3W
Q754	5321663	TRANSISTOR 2SC2021RS SILICON 180MHZ 0.3W
Q755	5321663	TRANSISTOR 2SC2021RS SILICON 180MHZ 0.3W
Q802	5323902	TRANSISTOR 2SC1740SS
Q803	5320069	TRANSISTOR 2SC458CD
Q808	5321214	TRANSISTOR 2SD468BC SILICON 190MHZ 0.9W
Q810	5327031	TRANSISTOR 2SA673C
Q811	5327031	TRANSISTOR 2SA673C
Q814	5327062	TRANSISTOR 2SC1740-SR
Q851	5323331	TRANSISTOR 2SB772-QR

SYMBOL-NO.	P-NO.	DESCRIPTION
Q904	5327001	TRANSISTOR 2SC458CD
Q1102	5321255	TRANSISTOR 2SA844-CD
Q1103	5320069	TRANSISTOR 2SC458-CD
QR201	5327081	TRANSISTOR RT1N241S
QR202	5327081	TRANSISTOR RT1N241S
QR203	5327081	TRANSISTOR RT1N241S
QR204	5324093	TRANSISTOR RT1P241S
QR205	5324091	TRANSISTOR RT1N241S
QR206	5324091	TRANSISTOR RT1N241S
QR207	5327083	TRANSISTOR RT1P241S
QR210	5324093	TRANSISTOR RT1P241S
QR211	5324091	TRANSISTOR RT1N241S
QR432	5327081	TRANSISTOR RT1N241S
QR501	5324094	TRANSISTOR RT1P441S
QR502	5327082	TRANSISTOR RT1N441S
QR505	5327082	TRANSISTOR RT1N441S
QR506	5327082	TRANSISTOR RT1N441S
QR601	5327082	TRANSISTOR RT1N441S
QR602	5327082	TRANSISTOR RT1N441S
QR605	5327082	TRANSISTOR RT1N441S
QR628	5324092	TRANSISTOR RT1N441S
QR631	5324092	TRANSISTOR RT1N441S
QR758	5324092	TRANSISTOR RT1N441S
QR801	5327082	TRANSISTOR RT1N441S
QR804	5327082	TRANSISTOR RT1N441S
QR812	5324092	TRANSISTOR RT1N441S
QR852	5324091	TRANSISTOR RT1N241S
ZD201	5331014	DIODE HZ5A SI ZENER
ZD352	5330394	DIODE HZ6A2
ZD601	5330317	DIODE HZ7A1
ZD602	5330318	DIODE HZ7B2
ZD603	5331271	DIODE HZ18-3
ZD751	5332633	ZENER DIODE RD4R7J B1-2
ZD752	5330322	DIODE HZ9B SI ZENER 1MHZ 0.4W
ZD753	5331588	DIODE RD2. 7E-B2
ZD801	5350611	IC UPC574J
ZD802	5339102	DIODE HZ5A
ZD803	5331274	DIODE ZENER HZ30-1

TRANSFORMERS

T401	5262531	BIAS COIL

COILS

L201	5152332	CHOKE COIL 39μH
L202	5152321	CHOKE COIL 5.6μH
L204	5152339	CHOKE COIL 150μH
L205	5153036	CHOKE COIL 27μH
L206	5159141	CHOKE COIL 10μH
L207	5159082	CHOKE COIL 220μH ±10%
L208	5152342	CHOKE COIL 220μH ±10%
L209	5152342	CHOKE COIL 220μH
L210	5153003	CHOKE COIL 15μH
L211	5159082	CHOKE COIL 220μH ±10%
L212	5159145	CHOKE COIL 22μH
L213	5159141	CHOKE COIL 10μH
L214	5153001	CHOKE COIL 10μH
L301	5152332	CHOKE COIL 39μH
L302	5150577	CHOKE COIL 12mH
L303	5159064	CHOKE COIL 10μH

	SYMBOL-NO.	P-NO.	DESCRIPTION
	L304	5159146	CHOKE COIL 27μH
	L305	5152326	CHOKE COIL 15μH
	L306	5152342	CHOKE COIL 220μH ±10%
	L351	5120849	TRAP COIL
	L352	5152337	CHOKE COIL 100μH ±10%
	L401	5152349	CHOKE COIL 820μH
	L403	5152971	CHOKE COIL 5600μH
	L404	5152971	CHOKE COIL 5600μH
	L501	5159158	CHOKE COIL 220μH
	L502	5159154	CHOKE COIL 100μH
	L503	5159154	CHOKE COIL 100μH
	L901	5159077	CHOKE COIL 100μH ±10%
	L1101	5153031	CHOKE COIL 10μH

CRYSTALS

	SYMBOL-NO.	P-NO.	DESCRIPTION
	X751	5781611	CRYSTAL
	X801	5781121	XTAL
	X1101	5781631	CRYSTAL

MISCELLANEOUS

	SYMBOL-NO.	P-NO.	DESCRIPTION
	BZ799	5409271	BUZZER – VT120E –
	CE901	5781121	XTAL
	CP201	5123839	TRAP COIL
	CP202	5169002	HIGH PASS FILTER
	CP203	5169012	DELAY LINE
	CP204	5169003	LOW PASS FILTER
	CP205	5169022	LOW PASS FILTER
	CP301	5785814	DELAY LINE
	CP302	5163081	BAND PASS FILTER
	CP351	5160431	BAND PASS FILTER
	DG751	5311772	TIMER DISPLAY
⚠	F850	5720175	FUSE 0.8A
⚠	F851	5721064	FUSE 2.5A
⚠	F852	5721064	FUSE 2.5A
⚠	F853	5720171	FUSE 315MA
	PD751	5490295	IR MODULE
	S143	5633362	PUSH SWITCH
	S144	5633362	PUSH SWITCH
	S501	5622462	SLIDE SWITCH
	S751	5635061	SWITCH
	S752	5635061	SWITCH
	S753	5635061	SWITCH
	S754	5635061	SWITCH
	S755	5635061	SWITCH
	S756	5635061	SWITCH
	S757	5635061	SWITCH
	S759	5635061	SWITCH
	S760	5635061	SWITCH
	S761	5635061	SWITCH
	S762	5635061	SWITCH
	S764	5635061	SWITCH
	S765	5635061	SWITCH
	S766	5635061	SWITCH
	S768	5635061	SWITCH
	S769	5635061	SWITCH
	S771	5635111	SWITCH (OPERATE)
	S772	5635111	SWITCH (REPEAT)
	S773	5635111	SWITCH (EJECT)
	S774	5635111	SWITCH
	S775	5635111	SWITCH (PLAY)
	S776	5635111	SWITCH (STOP)
	S778	5635111	SWITCH (REW)
	S780	5635111	SWITCH
	S781	5635111	SWITCH (PAUSE)
	S782	5635111	SWITCH (F. ADV)
	S786	5635111	SWITCH (START)
	S787	5635111	SWITCH (LENGTH)
	S799	5622801	SWITCH

REPLACEMENT PARTS LIST (ERSATZTEILLISTE)

ELECTRICAL PARTS LIST [For VT-135E (VPS)]

SYMBOL-NO	P-NO	DESCRIPTION
		CAPACITORS
C 201	0208374	CERAMIC DISC 0.01UF+-20% 50V
C 202	0256613	ELECTROLYTIC 4.7UF 35V
C 206	0208375	CERAMIC DISC 0.022UF+-10% 50V
C 209	0208375	CERAMIC DISC 0.022UF+-10% 50V
C 211	0208357	CERAMIC DISC 56PF+-5% 50V
C 213	0256614	ELECTROLYTIC 10UF,16V
C 216	0208353	CERAMIC DISC 27PF 50V
C 217	0256834	ELECTROLYTIC 10UF 16V
C 218	0208364	CERAMIC DISC 470PF+-10% 50V
C 222	0208355	CERAMIC DISC 39PF+-5% 50V
C 228	0208375	CERAMIC DISC 0.022UF+-10% 50V
C 230	0256606	ELECTROLYTIC 1MF,50V
C 232	0208375	CERAMIC DISC 0.022UF+-10% 50V
C 233	0256617	ELECTROLYTIC 22MF,10V
C 234	0208375	CERAMIC DISC 0.022UF+-10% 50V
C 235	0208375	CERAMIC DISC 0.022UF+-10% 50V
C 239	0208375	CERAMIC DISC 0.022UF+-10% 50V
C 242	0208374	CERAMIC DISC 0.01UF+-20% 50V
C 244	0208374	CERAMIC DISC 0.01UF+-20% 50V
C 246	0256613	ELECTROLYTIC 4.7UF 35V
C 247	0208354	CERAMIC DISC 33PF+-5% 50V
C 248	0208374	CERAMIC DISC 0.01UF+-20% 50V
C 249	0208357	CERAMIC DISC 56PF+-5% 50V
C 250	0208359	CERAMIC DISC 82PF+-10%
C 251	0208350	CERAMIC DISC 15PF+-5% 50V
C 252	0256611	ELECTROLYTIC 0.33UF 50V
C 256	0208374	CERAMIC DISC 0.01UF+-20% 50V
C 257	0256194	ELECTROLYTIC 470MF,10V
C 301	0208351	CERAMIC DISC 18PF 50V
C 303	0256614	ELECTROLYTIC 10UF,16V
C 305	0256194	ELECTROLYTIC 470MF,10V
C 308	0256614	ELECTROLYTIC 10UF,16V
C 309	0208365	CERAMIC DISC 680PF+-10% 50V
C 310	0208362	CERAMIC DISC 220PF+-10% 50V
C 311	0208374	CERAMIC DISC 0.01UF+-20% 50V
C 312	0208363	CERAMIC DISC 330PF+-10% 50V
C 313	0208352	CERAMIC DISC 22PF 50V
C 315	0256614	ELECTROLYTIC 10UF,16V
C 317	0208355	CERAMIC DISC 39PF+-5% 50V
C 351	0208374	CERAMIC DISC 0.01UF+-20% 50V
C 359	0208375	CERAMIC DISC 0.022UF+-10% 50V
C 360	0208358	CERAMIC DISC 68PF+-5% 50V
C 403	0256614	ELECTROLYTIC 10UF,16V
C 408	0256614	ELECTROLYTIC 10UF,16V
C 410	0256622	ELECTROLYTIC 33MF,16V
C 412	0208374	CERAMIC DISC 0.01UF+-20% 50V
C 413	0239368	CERAMIC DISC 1500PF+-20%
C 416	0208367	CERAMIC DISC 1000PF+-10% 50V
C 419	0256622	ELECTROLYTIC 33MF,16V
C 423	0239375	CERAMIC DISC 10000PF+-20%
C 425	0256196	CAPACITOR 100UF 16V ELECTROLYTIC
C 426	0208374	CERAMIC DISC 0.01UF+-20% 50V
C 428	0208365	CERAMIC DISC 680PF+-10% 50V
C 431	0239374	CERAMIC DISC 0.01UF+-20% 50V
C 432	0256617	ELECTROLYTIC 22MF,10V
C 433	0256180	CAPACITOR 1UF 50V ELECTROLYTIC
C 451	0256627	ELECTROLYTIC 47MF,16V
C 452	0239375	CERAMIC DISC 10000PF+-20%
C 502	0208374	CERAMIC DISC 0.01UF+-20% 50V
C 506	0208374	CERAMIC DISC 0.01UF+-20% 50V
C 508	0208374	CERAMIC DISC 0.01UF+-20% 50V
C 510	0208374	CERAMIC DISC 0.01UF+-20% 50V
C 512	0208374	CERAMIC DISC 0.01UF+-20% 50V
C 513	0256789	CAPACITOR 470UF 10V ELECTROLYTIC
C 519	0256135	CAPACITOR 10UF 16V ELECTROLYTIC
C 523	0208374	CERAMIC DISC 0.01UF+-20% 50V
C 524	0256782	CAPACITOR 220UF 10V ELECTROLYTIC
C 526	0256135	CAPACITOR 10UF 16V ELECTROLYTIC
C 527	0208374	CERAMIC DISC 0.01UF+-20% 50V
C 529	0208374	CERAMIC DISC 0.01UF+-20% 50V
C 604	0208374	CERAMIC DISC 0.01UF+-20% 50V
C 607	0239368	CERAMIC DISC 1500PF+-20%
C 608	0208361	CERAMIC DISC 150PF+-10% 50V
C 616	0208367	CERAMIC DISC 1000PF+-10% 50V
C 618	0208375	CERAMIC DISC 0.022UF+-10% 50V
C 620	0208375	CERAMIC DISC 0.022UF+-10% 50V
C 621	0208374	CERAMIC DISC 0.01UF+-20% 50V
C 624	0208374	CERAMIC DISC 0.01UF+-20% 50V
C 637	0208375	CERAMIC DISC 0.022UF+-10% 50V
C 638	0208374	CERAMIC DISC 0.01UF+-20% 50V
C 639	0256617	ELECTROLYTIC 22MF,10V
C 641	0256475	TANTALUM 4.7UF+-30% 10V
C 642	0208374	CERAMIC DISC 0.01UF+-20% 50V
C 644	0208367	CERAMIC DISC 1000PF+-10% 50V
C 653	0208360	CERAMIC DISC 100PF+-5% 50V
C 656	0208374	CERAMIC DISC 0.01UF+-20% 50V
C 657	0208374	CERAMIC DISC 0.01UF+-20% 50V
C 658	0208374	CERAMIC DISC 0.01UF+-20% 50V
C 677	0208375	CERAMIC DISC 0.022UF+-10% 50V
C 751	0256488	CAPACITOR 22UF 5V
C 752	0256626	ELECTROLYTIC 47MF,6.3V
C 753	0208374	CERAMIC DISC 0.01UF+-20% 50V
C 754	0256626	ELECTROLYTIC 47MF,6.3V
C 755	0208374	CERAMIC DISC 0.01UF+-20% 50V
C 756	0256606	ELECTROLYTIC 1MF,50V
C 757	0256612	ELECTROLYTIC 0.47UF 50V
C 759	0208375	CERAMIC DISC 0.022UF+-10% 50V
C 760	0256626	ELECTROLYTIC 47MF,6.3V
C 761	0256612	ELECTROLYTIC 0.47UF 50V
C 763	0208650	CERAMIC DISC 10PF+-5% 50V
C 770	5058562	TRIMMER 22PF
C 801	0208357	CERAMIC DISC 56PF+-5% 50V
C 805	0208374	CERAMIC DISC 0.01UF+-20% 50V

SYMBOL-NO	P-NO	DESCRIPTION
C 810	0208374	CERAMIC DISC 0.01UF+-20% 50V
C 815	0208363	CERAMIC DISC 330PF+-10% 50V
C 816	0208354	CERAMIC DISC 33PF+-5% 50V
C 817	0208354	CERAMIC DISC 33PF+-5% 50V
C 819	0208374	CERAMIC DISC 0.01UF+-20% 50V
C 825	0256180	CAPACITOR 1UF 50V ELECTROLYTIC
C 827	0208374	CERAMIC DISC 0.01UF+-20% 50V
C 829	0208374	CERAMIC DISC 0.01UF+-20% 50V
C 830	0208374	CERAMIC DISC 0.01UF+-20% 50V
C 854	0256657	ELECTROLYTIC 4700UF 35V
C 856	0256635	ELECTROLYTIC 220UF 50V
C 860	0256607	ELECTROLYTIC 47UF 25V
C 861	0256190	ELECTROLYTIC 330MF,16V
C 863	0256627	ELECTROLYTIC 47MF,16V
C 864	0256627	ELECTROLYTIC 47MF,16V
C 865	0256627	ELECTROLYTIC 47MF,16V
C 867	0256627	ELECTROLYTIC 47MF,16V
C 901	0208374	CERAMIC DISC 0.01UF+-20% 50V
C 902	0208375	CERAMIC DISC 0.022UF+-10% 50V
C 903	0208375	CERAMIC DISC 0.022UF+-10% 50V
C 904	0208374	CERAMIC DISC 0.01UF+-20% 50V
C 906	0208374	CERAMIC DISC 0.01UF+-20% 50V
C 907	0208375	CERAMIC DISC 0.022UF+-10% 50V
C 908	0208374	CERAMIC DISC 0.01UF+-20% 50V
C 909	0208354	CERAMIC DISC 33PF+-5% 50V
C 910	0208354	CERAMIC DISC 33PF+-5% 50V
C 912	0208374	CERAMIC DISC 0.01UF+-20% 50V
C 913	0208374	CERAMIC DISC 0.01UF+-20% 50V
C 921	0208375	CERAMIC DISC 0.022UF+-10% 50V
C 922	0208375	CERAMIC DISC 0.022UF+-10% 50V
C 923	0208375	CERAMIC DISC 0.022UF+-10% 50V
C1655	0256196	CAPACITOR 100UF 16V ELECTROLYTIC
C1657	0256618	ELECTROLYTIC 22UF 25V
C1658	0256618	ELECTROLYTIC 22UF 25V
C1659	0256618	ELECTROLYTIC 22UF 25V
C1660	0256618	ELECTROLYTIC 22UF 25V
C1661	0256618	ELECTROLYTIC 22UF 25V
C1662	0256618	ELECTROLYTIC 22UF 25V
C1663	0256618	ELECTROLYTIC 22UF 25V
		RESISTORS
R 305	0171015	METAL FILM 68OHM+-5% 1W
RT 201	5007447	RESISTOR SEMI VARIABLE 10K OHM
RT 301	5007434	RESISTOR SEMI VARIABLE 4.7K OHM
RT 351	5007431	RESISTOR SEMI VARIABLE 470 OHM
RT 401	5007899	SEMI VARIABLE 47KOHM
RT 402	5007901	SEMI VARIABLE 100KOHM
RT 501	5009142	RESISTOR VARIABLE 50KOHM
RT 601	5007899	SEMI VARIABLE 47KOHM
RT 607	5007902	SEMI VARIABLE 220KOHM
RT 611	5007901	SEMI VARIABLE 100KOHM
RT 612	5007901	SEMI VARIABLE 100KOHM

SYMBOL-NO	P-NO	DESCRIPTION
RV 751	5027225	RESISTOR VARIABLE 10KOHM
RV 752	5009131	VARIABLE 500KOHM
RV 753	5009132	VARIABLE 20KOHM
R1656	0149705	RESISTOR METAL OXIDE 470 OHM
		SEMI-CONDUCTORS
D 201	5339071	DIODE 1SS119-T
D 202	5331592	DIODE 1SS133
D 203	5331592	DIODE 1SS133
D 207	5339071	DIODE 1SS119-T
D 301	5339071	DIODE 1SS119-T
D 302	5331592	DIODE 1SS133
D 303	5339071	DIODE 1SS119-T
D 401	5339091	DIODE DAN209S
D 402	5332782	DIODE 1SS254
D 403	5332681	DIODE 1SS 119-P
D 404	5332681	DIODE 1SS 119-P
D 502	5339071	DIODE 1SS119-T
D 503	5339071	DIODE 1SS119-T
D 504	5339071	DIODE 1SS119-T
D 505	5339071	DIODE 1SS119-T
D 506	5339071	DIODE 1SS119-T
D 507	5339071	DIODE 1SS119-T
D 508	5339071	DIODE 1SS119-T
D 605	5339071	DIODE 1SS119-T
D 607	5339071	DIODE 1SS119-T
D 608	5339071	DIODE 1SS119-T
D 609	5339071	DIODE 1SS119-T
D 610	5339071	DIODE 1SS119-T
D 619	5339071	DIODE 1SS119-T
D 620	5339071	DIODE 1SS119-T
D 622	5339071	DIODE 1SS119-T
D 623	5339071	DIODE 1SS119-T
D 624	5339071	DIODE 1SS119-T
D 628	5339071	DIODE 1SS119-T
D 629	5339071	DIODE 1SS119-T
D 630	5339071	DIODE 1SS119-T
D 640	5339071	DIODE 1SS119-T
D 643	5339071	DIODE 1SS119-T
D 644	5339071	DIODE 1SS119-T
D 645	5339071	DIODE 1SS119-T
D 651	5339071	DIODE 1SS119-T
D 652	5339071	DIODE 1SS119-T
D 653	5339071	DIODE 1SS119-T
D 654	5339071	DIODE 1SS119-T
D 655	5332681	DIODE 1SS 119-P
D 656	5339071	DIODE 1SS119-T
D 751	5339021	DIODE 1SS133
D 752	5339021	DIODE 1SS133
D 753	5339021	DIODE 1SS133
D 754	5339021	DIODE 1SS133
D 760	5339021	DIODE 1SS133

SYMBOL-NO	P-NO	DESCRIPTION
D 764	5381211	LED SLR-34UR5
D 801	5332681	DIODE 1SS 119-P
D 802	5339071	DIODE 1SS119-T
D 803	5339071	DIODE 1SS119-T
D 804	5339071	DIODE 1SS119-T
D 805	5339071	DIODE 1SS119-T
D 806	5339071	DIODE 1SS119-T
D 851	5332741	DIODE D3SB10
D 852	5331671	DIODE DS135D-FA3
D 853	5331671	DIODE DS135D-FA3
D 854	5331671	DIODE DS135D-FA3
D 855	5331671	DIODE DS135D-FA3
D 856	5331671	DIODE DS135D-FA3
D 857	5331671	DIODE DS135D-FA3
D 858	5331588	DIODE RD2.7E-B2
D 861	5331671	DIODE DS135D-FA3
D 862	5331671	DIODE DS135D-FA3
D 864	5339021	DIODE 1SS133
D 865	5330571	DIODE 1S2473VE SI 100MHZ 250MW 10NS
D 866	5331592	DIODE 1SS133
D 903	5339071	DIODE 1SS119-T
D 904	5339071	DIODE 1SS119-T
D 914	5339071	DIODE 1SS119-T
IC 201	5370821	IC HT4495
IC 203	5370844	IC HT4727C
IC 204	5362262	IC MSM6965RS
IC 205	5370501	IC HT4708
IC 206	5721802	IC PROTECTER
IC 301	5370273	IC HT4539B
IC 303	5366641	IC BA7025L
IC 401	5366331	IC UPC1533HA
IC 402	5364931	IC BA5115L
IC 403	5369431	IC LA7016
IC 501	5369431	IC LA7016
IC 601	5367302	IC M54898AP
IC 602	5369913	IC M54648L-B
IC 608	5366992	IC M51483P
IC 801	5361834	IC M50161-354SP
IC 802	5366132	IC LA7934
IC 803	5361071	IC M58657P
IC 804	5721802	IC PROTECTER
IC 805	5721802	IC PROTECTER
IC 851	5353651	IC STK5471
IC 901	5361812	IC HD614042SD37
IC 902	5367111	IC M54649L
IC 903	5365673	IC NJM2901N
IC1101	5367211	IC SAA5235
IC1102	5362241	IC SAF1134P
IC1651	5355582	IC HA13403
Q 201	5321292	TRANSISTOR 2SC1740S SILICON 250MHZ 0.3W
Q 202	5327021	TRANSISTOR 2SA844CD-TB
Q 203	5321292	TRANSISTOR 2SC1740S SILICON 250MHZ 0.3W
Q 205	5321292	TRANSISTOR 2SC1740S SILICON 250MHZ 0.3W
Q 206	5321255	TRANSISTOR 2SA844CD SILICON 200MHZ 0.3W
Q 207	0573511	TRANSISTOR 2SC535C SILICON 700MHZ 100MW
Q 208	5327021	TRANSISTOR 2SA844CD-TB
Q 209	5322732	TRANSISTOR 2SA952ML2 SILICON 160MHZ 0.6W
Q 210	5321292	TRANSISTOR 2SC1740S SILICON 250MHZ 0.3W
Q 211	5321292	TRANSISTOR 2SC1740S SILICON 250MHZ 0.3W
Q 212	5327062	TRANSISTOR 2SC1740S-R
Q 213	5327062	TRANSISTOR 2SC1740S-R
Q 214	5321255	TRANSISTOR 2SA844CD SILICON 200MHZ 0.3W
Q 215	5327021	TRANSISTOR 2SA844CD-TB
Q 401	5327101	TRANSISTER 2SC3553BC
Q 402	5320593	TRANSISTOR 2SA673C SILICON 80MHZ 40MW
Q 431	5327031	TRANSISTOR 2SA673C-TB
Q 502	5327031	TRANSISTOR 2SA673C-TB
Q 504	5322732	TRANSISTOR 2SA952ML2 SILICON 160MHZ 0.6W
Q 505	5320069	TRANSISTOR 2SC458CD SILICON 230MHZ 0.2W
Q 611	5327001	TRANSISTOR 2SC458CD-TB
Q 612	5327001	TRANSISTOR 2SC458CD-TB
Q 613	5323461	TRANSISTOR 2SD1266PQ
Q 614	5320069	TRANSISTOR 2SC458CD SILICON 230MHZ 0.2W
Q 615	5327031	TRANSISTOR 2SA673C-TB
Q 616	5327001	TRANSISTOR 2SC458CD-TB
Q 617	5327001	TRANSISTOR 2SC458CD-TB
Q 626	5327001	TRANSISTOR 2SC458CD-TB
Q 627	5320069	TRANSISTOR 2SC458CD SILICON 230MHZ 0.2W
Q 751	5321663	TRANSISTOR 2SC2021RS SILICON 180MHZ 0.3W
Q 754	5321663	TRANSISTOR 2SC2021RS SILICON 180MHZ 0.3W
Q 755	5321663	TRANSISTOR 2SC2021RS SILICON 180MHZ 0.3W
Q 802	5323903	TRANSISTOR 2SC1740S-RS
Q 803	5327001	TRANSISTOR 2SC458CD-TB
Q 808	5321214	TRANSISTOR 2SD468BC SILICON 190MHZ 0.9W
Q 810	5327031	TRANSISTOR 2SA673C-TB
Q 811	5327031	TRANSISTOR 2SA673C-TB
Q 814	5327062	TRANSISTOR 2SC1740S-R
Q 851	5323334	TRANSISTOR 2SB772-QR
Q 904	5327001	TRANSISTOR 2SC458CD-TB
QR 201	5327081	TRANSISTOR RT1N241S
QR 202	5327081	TRANSISTOR RT1N241S
QR 203	5324091	TRANSISTOR RT1N241S
QR 204	5327083	TRANSISTER RT1P241S
QR 205	5324091	TRANSISTOR RT1N241S
QR 206	5327081	TRANSISTOR RT1N241S
QR 207	5327083	TRANSISTER RT1P241S
QR 208	5324091	TRANSISTOR RT1N241S
QR 209	5324091	TRANSISTOR RT1N241S
QR 210	5327083	TRANSISTER RT1P241S
QR 211	5324091	TRANSISTOR RT1N241S
QR 432	5327081	TRANSISTOR RT1N241S
QR 501	5327084	TRANSISTER RT1P441S
QR 502	5327082	TRANSISTOR RT1N441S
QR 505	5327082	TRANSISTOR RT1N441S

SYMBOL-NO	P-NO	DESCRIPTION
QR 506	5327082	TRANSISTOR RT1N441S
QR 601	5327082	TRANSISTOR RT1N441S
QR 602	5327082	TRANSISTOR RT1N441S
QR 604	5327082	TRANSISTOR RT1N441S
QR 605	5324092	TRANSISTOR RT1N441S
QR 606	5324092	TRANSISTOR RT1N441S
QR 628	5324092	TRANSISTOR RT1N441S
QR 629	5324094	TRANSISTOR RT1P441S
QR 631	5327082	TRANSISTOR RT1N441S
QR 632	5324092	TRANSISTOR RT1N441S
QR 633	5324092	TRANSISTOR RT1N441S
QR 758	5324092	TRANSISTOR RT1N441S
QR 801	5327082	TRANSISTOR RT1N441S
QR 804	5327082	TRANSISTOR RT1N441S
QR 812	5327082	TRANSISTOR RT1N441S
QR 852	5324091	TRANSISTOR RT1N241S
Q1102	5321255	TRANSISTOR 2SA844CD SILICON 200MHZ 0.3W
Q1103	5320069	TRANSISTOR 2SC458CD SILICON 230MHZ 0.2W
ZD 201	5331014	DIODE HZ5A SI ZENER
ZD 601	5330317	DIODE HZ-7A-1 ZENNER
ZD 602	5330318	DIODE HZ7B2 SI ZENER 1MHZ 0.4W
ZD 603	5331271	DIODE HZ18-3
ZD 751	5332633	ZENNER DIODE RD4R7JSB1-2
ZD 752	5330322	DIODE HZ9B SI ZENER 1MHZ 0.4W
ZD 753	5331588	DIODE RD2.7E-B2
ZD 801	5366151	IC UPC574J
ZD 802	5339102	DIODE HZ5A
ZD 803	5331274	DIODE ZENNER
		TRANSFORHERS
T 401	5262531	BIAS COIL
		COILS
L 201	5153039	CHOKE COIL 47UH
L 202	5152321	CHOKE COIL 5.6MICRO H
L 203	5152337	CHOKE COIL 100UH+-10%
L 204	5159079	CHOKE COIL 150UH+-10%
L 205	5153036	CHOKE COIL 27UH
L 206	5153005	CHOKE COIL 22UH
L 207	5152342	CHOKE COIL 220UH+-10%
L 208	5152342	CHOKE COIL 220UH+-10%
L 209	5152342	CHOKE COIL 220UH+-10%
L 210	5153033	CHOKE COIL 15UH
L 211	5152342	CHOKE COIL 220UH+-10%
L 212	5159145	CHOKE COIL 22UH
L 213	5159141	CHOKE COIL 10UH
L 214	5153031	CHOKE COIL 10UH
L 301	5153038	CHOKE COIL 39UH
L 302	5150577	CHOCK COIL 12MH
L 303	5159064	CHOKE COIL 10UH+-10%
L 305	5159066	CHOKE COIL 15UH+-10%
L 306	5152342	CHOKE COIL 220UH+-10%

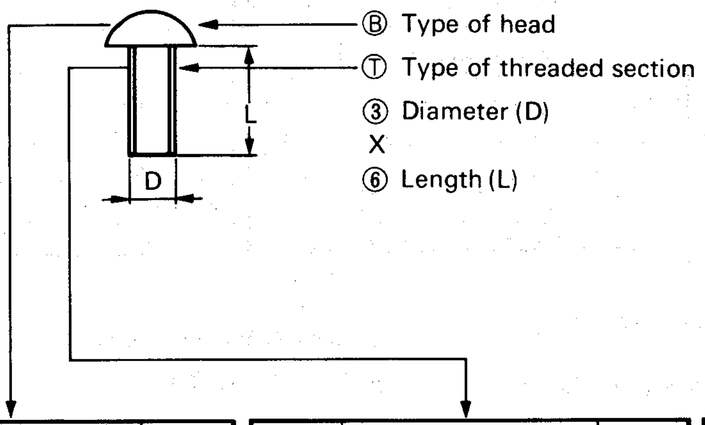
SYMBOL-NO	P-NO	DESCRIPTION
L 351	5120849	TRAP COIL
L 352	5152337	CHOKE COIL 100UH+-10%
L 401	5159089	CHOKE COIL 820UH+-10%
L 403	5159111	CHOKE COIL 5600UH
L 404	5159111	CHOKE COIL 5600UH
L 501	5159158	CHOKE COIL 220UH
L 502	5159154	CHOKE COIL 100UH
L 503	5159154	CHOKE COIL 100UH
L 901	5159077	CHOKE COIL 100UH+-10%
L1101	5153031	CHOKE COIL 10UH
		CRYSTALS
X 751	5781611	CRYSTAL
X 801	5781121	XTAL
X1101	5781631	CRYSTAL
		MISCELLANEOUS
BZ 799	5409271	BUZZER
CE 901	5781121	XTAL
CP 201	5123839	TRAP COIL
CP 202	5169002	HIGH PASS FILTER
CP 203	5169012	DELAY LINE
CP 204	5169003	LOW PASS FILTER
CP 205	5169022	LOW PASS FILTER
CP 301	5785814	DELAY LINE
CP 302	5163081	BAND PASS FILTER
CP 351	5160431	BAND PASS FILTER
DG 751	5311772	TIMER DISPLAY
⚠ F 850	5720175	FUSE 0.8A
⚠ F 851	5721064	FUSE 2.5A
⚠ F 852	5721064	FUSE 2.5A
⚠ F 853	5720171	FUSE 315MA
HZ 604	5330563	DIODE HZ16-3 SI ZENER 1MHZ 0.4W
S 143	5633362	PUSH SWITCH
S 144	5633362	PUSH SWITCH
S 501	5622462	SLIDE SWITCH
S 751	5635061	SWITCH
S 752	5635061	SWITCH
S 753	5635061	SWITCH
S 754	5635061	SWITCH
S 755	5635061	SWITCH
S 756	5635061	SWITCH
S 759	5635061	SWITCH
S 760	5635061	SWITCH
S 761	5635061	SWITCH
S 762	5635061	SWITCH
S 764	5635061	SWITCH
S 765	5635061	SWITCH
S 766	5635061	SWITCH
S 768	5635061	SWITCH
S 769	5635061	SWITCH
S 771	5635111	SWITCH

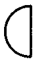
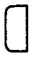
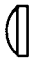
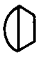
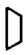
SYMBOL-NO	P-NO	DESCRIPTION
S 772	5635111	SWITCH
S 773	5635111	SWITCH
S 774	5635111	SWITCH
S 775	5635111	SWITCH
S 776	5635111	SWITCH
S 777	5635111	SWITCH
S 778	5635111	SWITCH
S 780	5635111	SWITCH
S 781	5635111	SWITCH
S 782	5635111	SWITCH
S 785	5635111	SWITCH
S 786	5635111	SWITCH
S 787	5635111	SWITCH
S 799	5622801	SWITCH

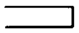
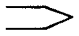
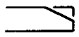
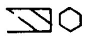
EXPLODED VIEWS

SCREW CLASSIFICATION

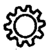
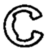
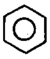
Example: BT3 × 6



Abbre-viation	Name	Shape
No symbol	Brazier head	
P	Pan head	
B	Binding head	
O	Oval countersunk head	
F	Flat countersunk head	

Abbre-viation	Name	Shape
No symbol	Machine (clamps without tapping)	
t	Tapping (clamps with tapping) Type 1	
T	Tapping (clamps with tapping) Type 2	
f	Forming tight (for metal)	
Note	Since the forming tight screw tightens while self-tapping. machine screws can be replaced by tapping screws.	

Washers and Nuts

Abbre-viation	Name	Shape
W SW LW	Washer Spring washer Locking washer	 
E	E-ring	
N	Nut	
Note	Internal dia is indicated for nuts and washers.	

LUBRICATION

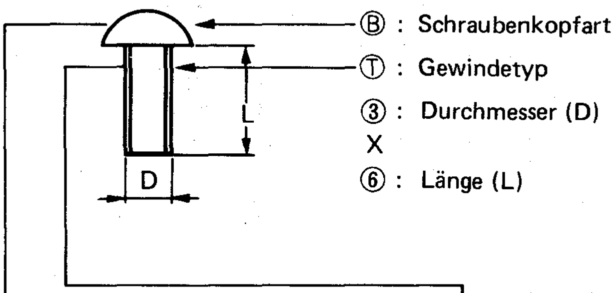
Lubrication points are shown in the exploded view diagrams by marks (Ⓢ, Ⓗ)
Lubricants shown in the diagram are as follows.

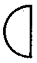
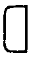
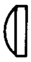
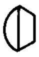
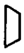
Ⓢ Sonic slider oil (♯ 1600)
Ⓗ Hitazol (MO-138)

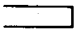
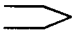
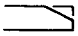
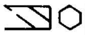
EXPLOSIONSZEICHNUNGEN

Schrauben-Klassifikation

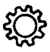
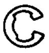
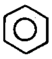
Beispiel: BT3 x 6



Abkürzung	Bezeichnung	Form
Kein symbol	Rundkopfschraube	
P	Zylinderkopfschraube	
B	Halbrundschraube	
O	Linsenkopf-Senkschraube	
F	Senkschraube	

Abkürzung	Bezeichnung	Form
Kein symbol	Maschinenschraube	
t	Schneidschraube Typ 1 (selbstschneidend)	
T	Schneidschraube Typ 2 (selbstschneidend)	
f	Blechschraube (für Metall)	
Hinweis: Blechschrauben sind selbstschneidend; die selbstschneidenden maschinenschrauben können durch Schneidschrauben ersetzt werden.		

Unterlegescheiben und Muttern

Abkürzung	Bezeichnung	Form
W SW LW	Unterlegescheibe Federscheibe Sicherungsscheibe	 
E	E-Ring	
N	Mutter	
Hinweis: Für Muttern und Scheiben werden der Innendurchmesser angegeben.		

Schmierung

Die Schmierpunkte sind in den Explosionszeichnungen durch Symbole (Ⓢ, Ⓗ) gekennzeichnet.
Die im Diagramm gezeigten Schmierpunkte sind mit folgenden Schmiermittel zu schmieren:

Ⓢ Sonic-Gleitöl (Nr. 1600)
Ⓗ Hitazol (MO-138)

MECHANICAL PARTS LIST

[CABINET SECTION]

SYMBOL-NO	P-NO	DESCRIPTION
		FOR FINAL ASSEMBLY
101	6189398	CASSETTE DOOR
102	6077031	ROTARY KNOB
103	6892335	HOLDER
	6892333	R NOBU HOLDER
104	7741444	FELT (LEG)
105	6001561	BOTTOM COVER
106	6001894	TOP COVER ASSEMBLY
107	6238938	FRONT PANEL
	6238925	FRONT PANEL ASSEMBLY
108	6083613	BUTTON
109	6083572	BUTTON
110	6083582	BUTTON
111	6083605	
112	6083892	BUTTON
113	6083884	BUTTON [For VT-125E]
113	6083883	BUTTON [For VT-135E]
115	6890461	PCB HOLDER
116	6864241	CAP
119	6753911	FUSE COVER
120	6026751	REAR PANEL
123	6795152	RIVET
124	6893941	HINGE
125	6890501	STUD
126	6794591	BUSHING
⚠ 127	5746157	POWER CORD WITH PLUG
⚠ 128	5213811	POWER TRANSFORMER
130	6892513	REAR PIECE
131	5672971	JACK PLATE [For VT-125E]
131	5672981	JACK PLATE [For VT-135E]
132	5586591	TUNER IF BLOCK
133	5587621	RF CONVERTOR
134	6890631	LED HOLDER
135	6891531	DISPLAY HOLDER
136	6869311	COVER
150	5490295	IR MODULE
901	8699410	BT BIND HEAD SCREW 3MMD X 14MM BLACK
902	7784428	SCREW (M3)
903	8741406	BIND SCREW - 3MMD X 6MM
904	8691408	BIND HEAD TAPPING SCREW 3MMD X 8MM
905	8699410	BT BIND HEAD SCREW 3MMD X 14MM BLACK
906	8699412	BIND TAPPING SCREW-3MMX12MM (BLACK)
907	8691608	SCREW 4X8BT
908	8691414	SCREW 3×14 BT
909	8691408	BIND HEAD TAPPING SCREW 3MMD X 8MM

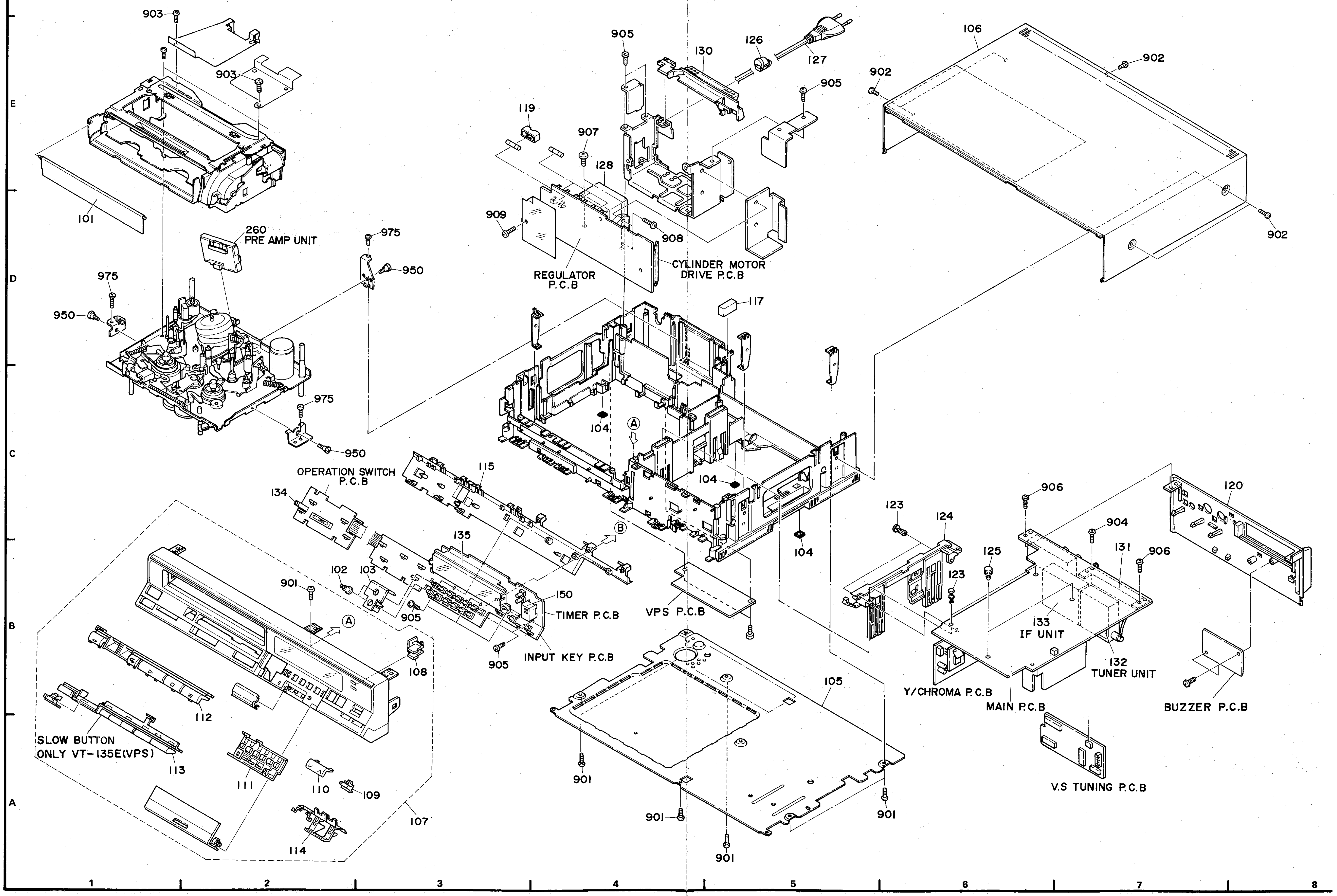
[CHASSIS/CASSETTE LOADING MECHANISM/ CYLINDER MOTOR SECTION]

SYMBOL-NO	P-NO	DESCRIPTION
		FOR FINAL ASSEMBLY
202	6415391	REEL TABLE-SUPPLY
203	6415412	REEL TABLE-TAKE UP
206	7787412	WASHER
207	7778859	POLYSLIDER WASHER
208	6865662	ARM-BRAKE
209	7386841	TENSION ARM
210	6865804	BRAKE L
211	6865812	BRAKE R
212	6302471	SPRING
213	6543864	SPRING
214	7376271	TENSION BAND
215	6879421	BT.SPRING HOLDER
216	7386882	ARM BRAKET [For VT-125E]
216	7368351	ARM BRAKET [For VT-135E]
217	6886792	ARM
218	7376303	LOADING LINK (RIGHT) ASSEMBLY
219	7376313	LOADING LINK (LEFT) ASSEMBLY
220	6978301	GUIDE ROLLER BASE (I)
221	6974661	BASE
224	6869481	GUIDE ROLLER
226	7386892	GUIDE BASE HOLDER
228	6868061	GUIDE ROLLER ASSEMBLY (OUT)
229	7570671	TAPE GUIDE (I)
230	6304903	SPRING
231	6879902	IMPEDANCE ARM ASSEMBLY
232	5446151	FULL ERASE HEAD
233	6302391	SPRING
234	5446161	AUDIO CONTROL HEAD
235	6304906	SPRING
236	7786245	WASHER
237	6878932	SUB BRAKE
238	6300084	SPRING
239	5578762	CAPSTAN MOTOR
240	6865675	RECORDING PREVENTION ARM
241	5633971	SWITCH (S142)
242	7788143	POLYSLIDER WASHER
243	6979842	PRESSURE ROLLER ASSEMBLY
246	6547811	SPRING
247	6979042	SCREW
248	5625141	SWITCH
250	6873291	COLLAR
251	4504401	TAPE GUIDE
255	6877521	COLLAR
256	6539101	SPRING
257	6979872	ARM ASSEMBLY [ONLY VT-135E (VPS)]
258	6550751	SPRING [ONLY VT-135E (VPS)]
259	7786626	WASHER [ONLY VT-135E (VPS)]
260	5372041	PRE AMP PCB ASSEMBLY
301	6886824	CLUCH PLATE ASSEMBLY
302	6355561	BELT
303	7386971	SLIDER-BRAKE

SYMBOL-NO	P-NO	DESCRIPTION
304	6865733	MODE SLIDER
305	6547821	SPRING
306	6889552	GEAR
307	6865791	TENTION ARM
311	7386933	MOTOR (DC) 3.7W 65G LOADING
312	6356111	BELT
313	6356451	BELT
314	6979051	FLYWHEEL
315	7788142	POLYSLIDER WASHER (THRUST)
316	7788861	WASHER
317	6356101	BELT
318	6356081	BELT
319	7386833	PLATE
320	6869291	PULLEY
321	7778859	POLYSLIDER WASHER
322	6355561	BELT
401	7397054	FRONT LOADING MECHA ASSEMBLY
402	7386745	SIDE BRACKET (L) ASSEMBLY
403	7386701	BRACKET(R)
404	7386815	CASSETTE HOLDER
412	7394493	BRACKET-MOTOR
414	5946911	MOTOR CBA
417	6879104	LOADING GEAR ASSEMBLY (R)
423	6879093	LOADING GEAR ASSEMBLY (L)
424	7367361	PLATE
425	6887322	FRONT HOLDER
426	4500402	SHAFT
427	6879153	DOOR ARM
428	6301027	SPRING
430	6879182	GUIDE PIECE
501	5457471	UPPER CYLINDER [For VT-125E]
501	5457472	UPPER CYLINDER [For VT-135E]
502	5457481	LOWER CYLINDER [For VT-125E]
502	5457482	LOWER CYLINDER [For VT-135E]
503	5792631	BRUSH
950	7541395	SPECIAL SCREW
951	8691408	BIND HEAD TAPPING SCREW 3MMD X 8MM
952	8741408	SCREW (B3X8)
954	7781133	BT SCREW 3MMD
955	8691408	BIND HEAD TAPPING SCREW 3MMD X 8MM
956	8691408	BIND HEAD TAPPING SCREW 3MMD X 8MM
958	8691408	BIND HEAD TAPPING SCREW 3MMD X 8MM
959	7773083	SCREW
960	8741408	SCREW (B3X8)
961	8812114	WASHER - 3MMD SMALL
962	8650412	SCREW 3X12 WITH SPRING WASHER
963	8821114	3D NUT
964	8741103	SCREW(2X3B)
965	7781872	SCREW-3MMDX8MM
966	7773086	SCREW

SYMBOL-NO	P-NO	DESCRIPTION
967	8741414	BINDING SCREW - 3MMD X 14MM
968	8821114	3D NUT
969	8741408	SCREW (B3X8)
970	8691408	BIND HEAD TAPPING SCREW 3MMD X 8MM
971	8691408	BIND HEAD TAPPING SCREW 3MMD X 8MM
972	8691312	BT BIND SCREW-2.6MMDX12MM
975	8699410	BT BIND HEAD SCREW 3MMD X 14MM BLACK
976	7782781	SCREW 3X8BT
977	8691408	BIND HEAD TAPPING SCREW 3MMD X 8MM
978	8741408	SCREW (B3X8)
979	8650408	SCREW
980	8741406	BIND SCREW - 3MMD X 6MM
983	8741403	BIND SCREW-3MMDX3MM
985	8671406	DT SCREW-3MMDX6MM
986	8678405	DT SCREW-3MMDX5MM (BLACK)
988	8691410	SCREW
989	8711103	PAN HEAD SCREW 2X3
990	8741406	BIND SCREW - 3MMD X 6MM
		FOR ACCESSARIES
	5898876	CONNECTER CORD
	5638905	REMOTE HAND SET

CABINET SECTION (GEHÄUSEEINHEIT)


903
903
101
260
PRE AMP UNIT
975
950
975
950
975
950
905
130
126
127
905
119
907
128
909
908
REGULATOR P.C.B
CYLINDER MOTOR DRIVE P.C.B
106
902
902
902
117
104
Ⓐ
104
104
OPERATION SWITCH P.C.B
134
115
Ⓑ
135
102
103
901
Ⓐ
905
150
TIMER P.C.B
INPUT KEY P.C.B
905
108
112
SLOW BUTTON
ONLY VT-135E(VPS)
113
111
110
109
107
114
VPS P.C.B
105
901
901
901
901
123
124
125
123
906
904
131
906
133
IF UNIT
132
TUNER UNIT
Y/CHROMA P.C.B
MAIN P.C.B
V.S TUNING P.C.B
120
BUZZER P.C.B
E
D
C
B
A
1
2
3
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6
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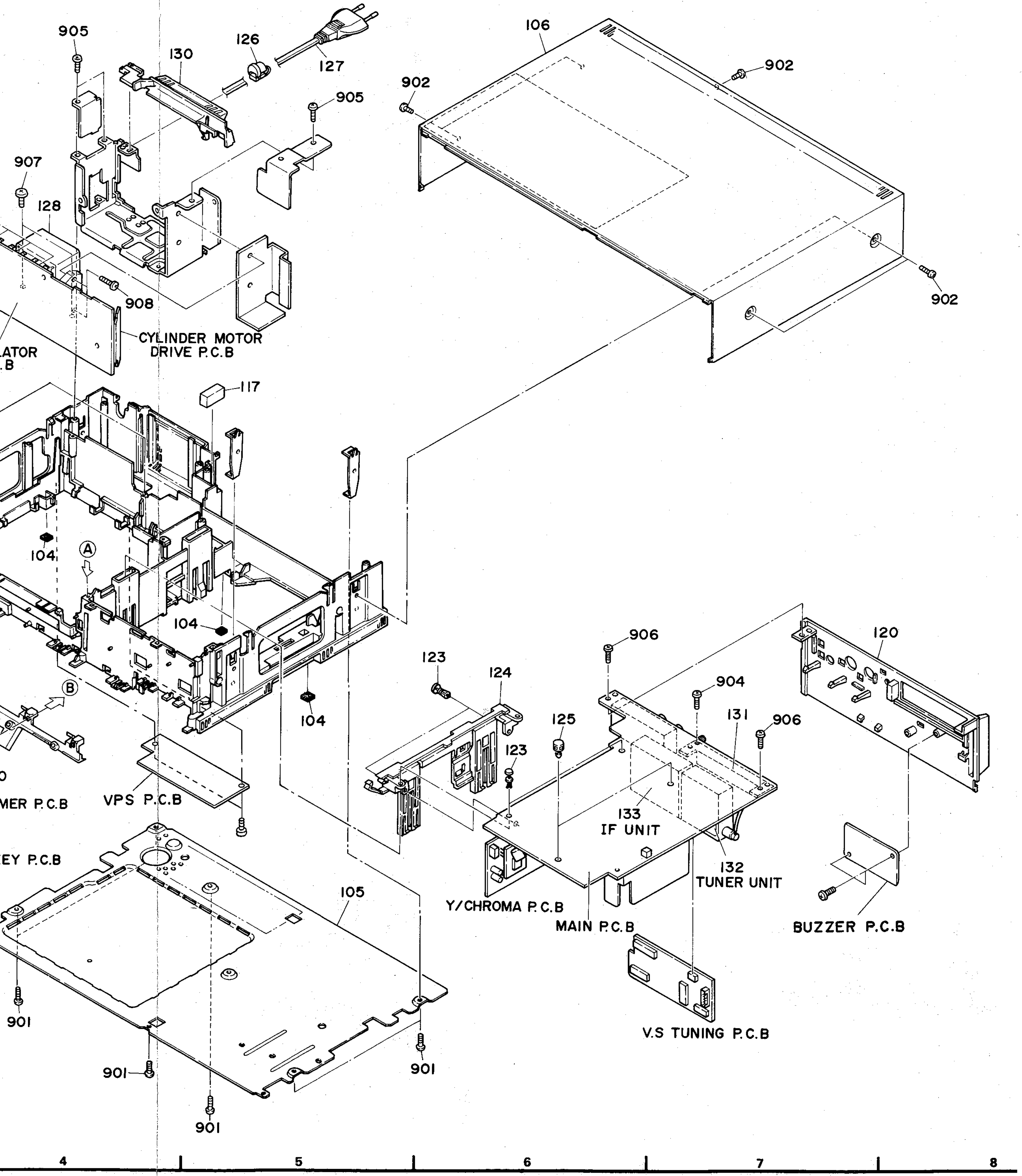
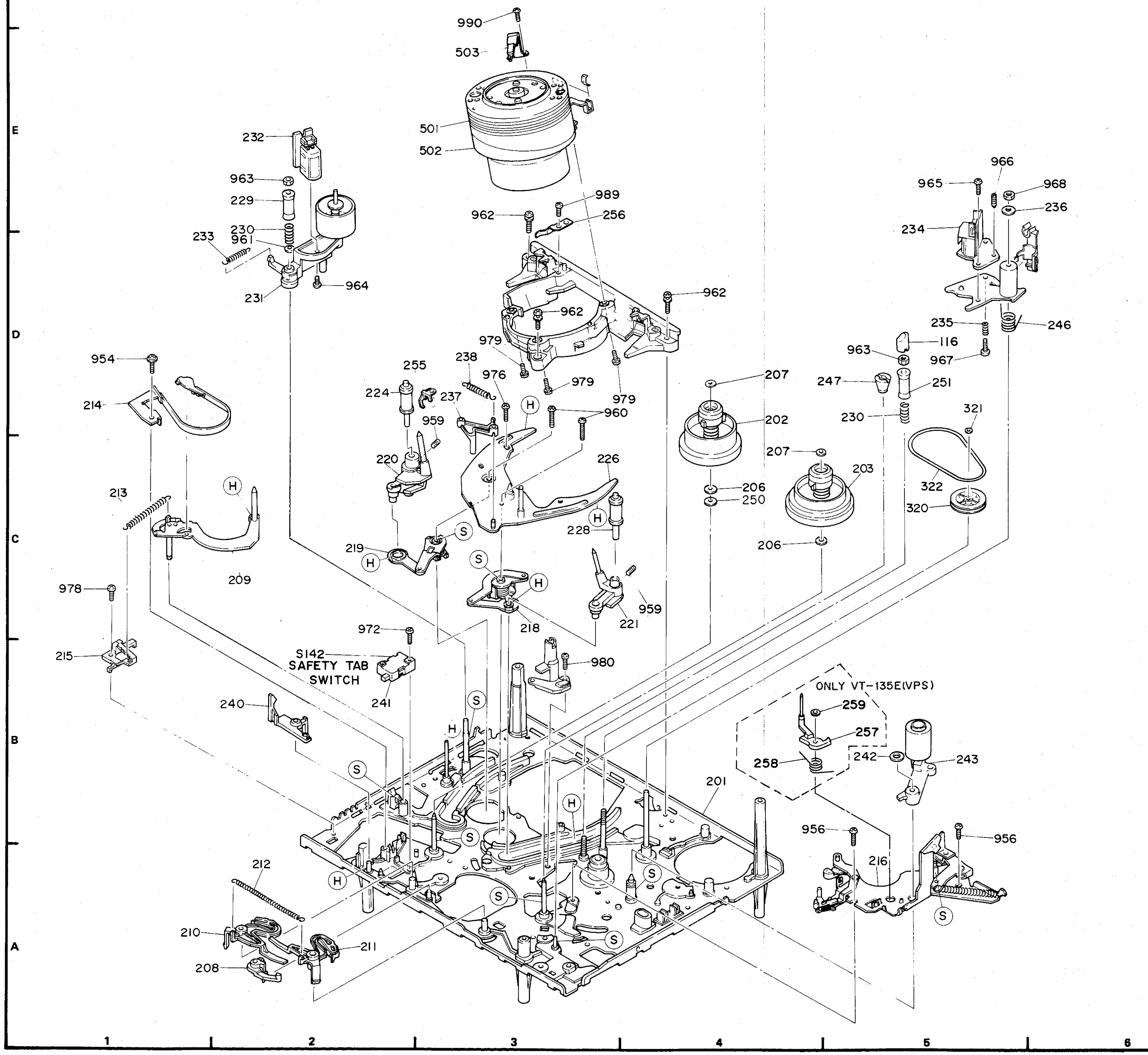
8


CYLINDER MOTOR DRIVE P.C.B
LATOR
.B
Ⓐ
Ⓑ
IF UNIT
TUNER UNIT
MER P.C.B
VPS P.C.B
EY P.C.B
Y/CHROMA P.C.B
MAIN P.C.B
BUZZER P.C.B
V.S TUNING P.C.B

CHASSIS (I) SECTION (CHASSIS [I])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989
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979
966
965
968
236
234
235
246
116
963
967
954
214
255
238
976
224
237
959
960
220
226
207
202
247
251
230
321
207
203
206
250
322
320
213
H
209
219
S
228
206
978
218
221
959
972
S142
SAFETY TAB
SWITCH
241
980
215
240
ONLY VT-135E(VPS)
259
257
258
242
243
201
956
956
216
212
210
211
208
S
H
E
D
C
B
A
1
2
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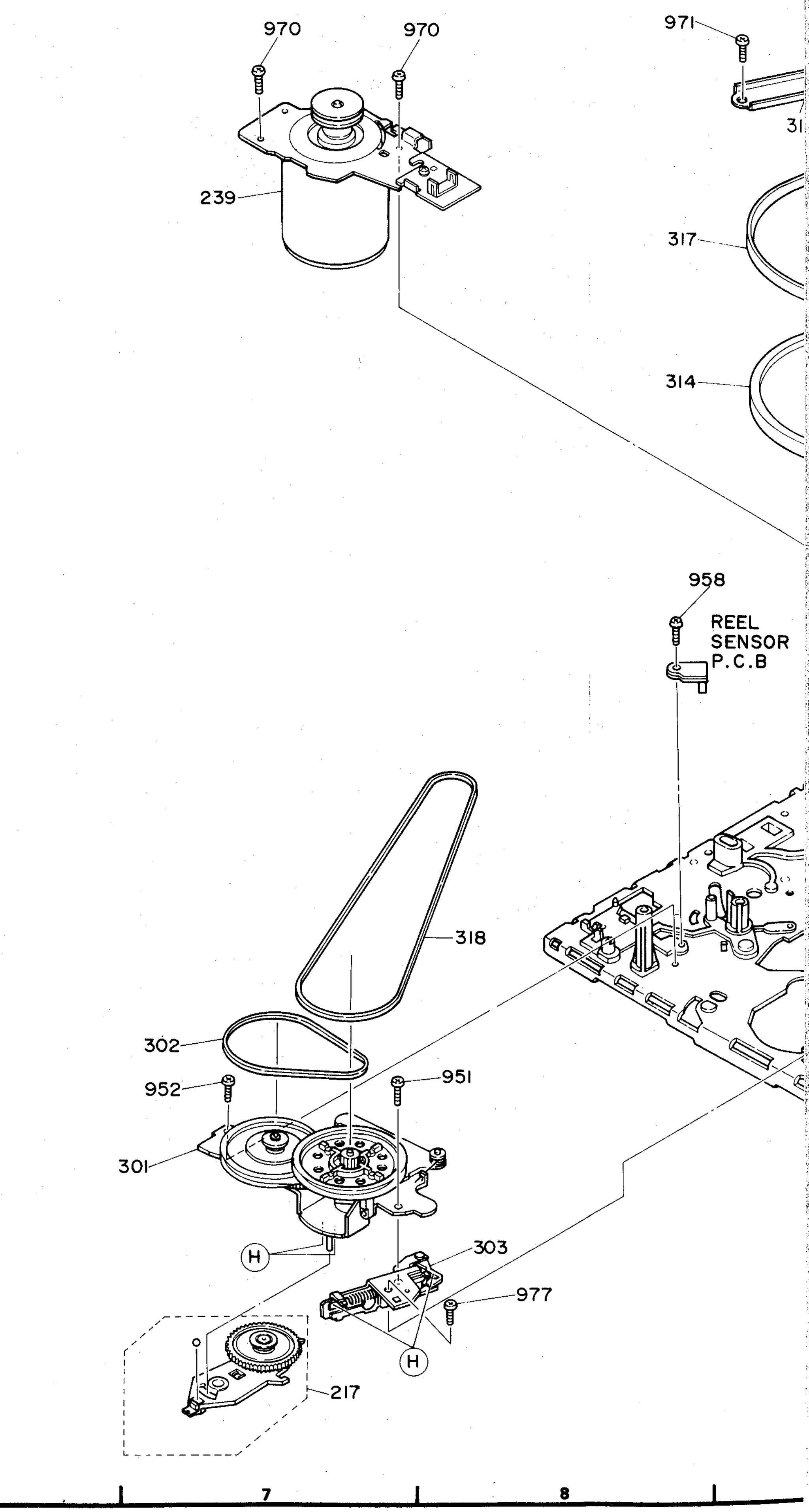
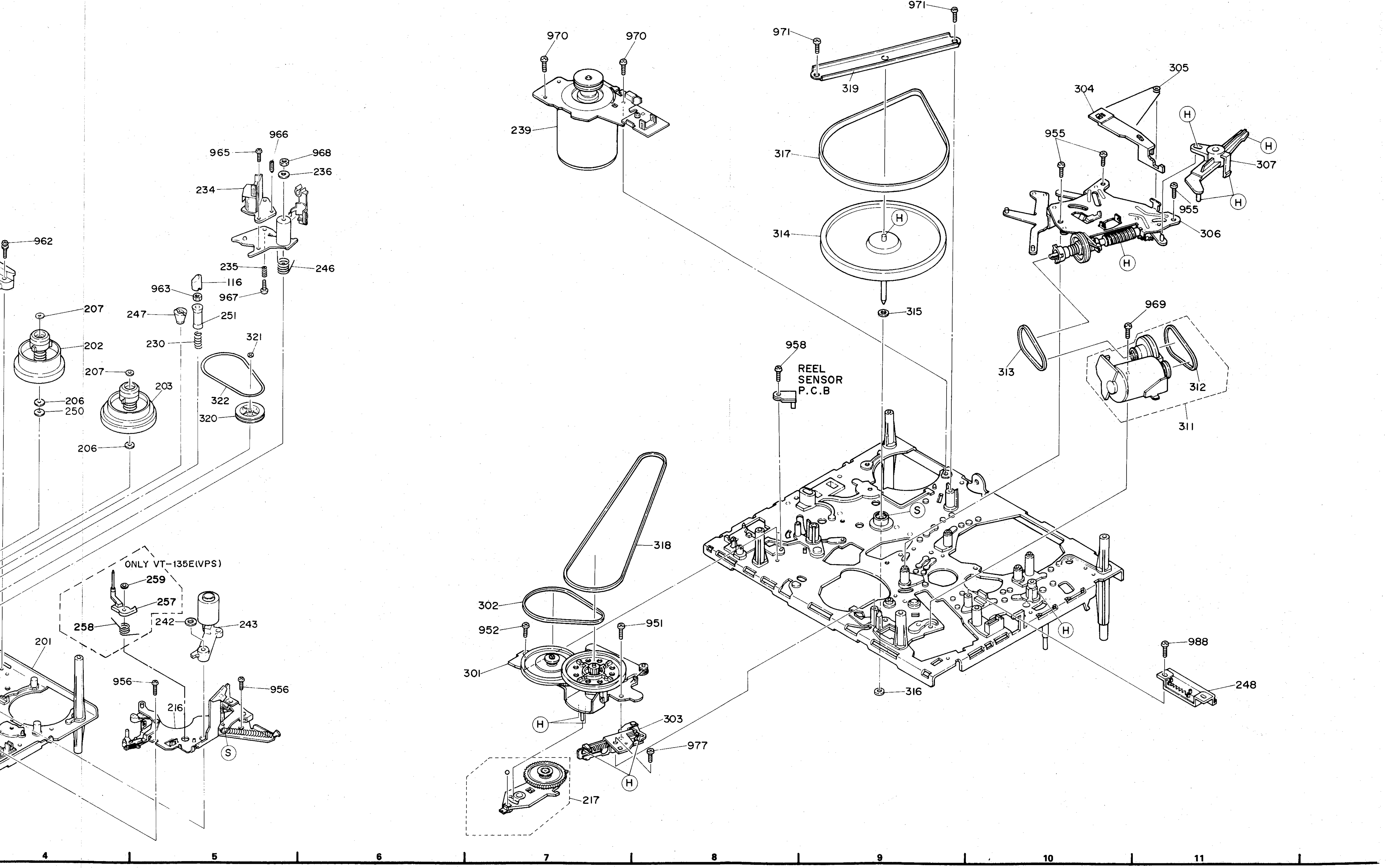
5
6

CHASSIS (II) SECTION (CHASSIS [II])


970
970
971
31
239
317
314
958
REEL
SENSOR
P.C.B
318
302
952
951
301
303
977
H
217
7
8

CHASSIS (II) SECTION (CHASSIS [II])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970
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305
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239
966
965
968
236
955
H
H
307
317
234
H
955
314
306
962
235
246
H
116
963
967
207
247
251
969
315
202
230
321
958
REEL SENSOR P.C.B
313
207
322
312
203
206
250
320
311
206
318
ONLY VT-135E(VPS)
259
257
302
243
242
951
258
952
H
988
201
301
316
248
956
956
216
H
303
S
S
977
H
217
4
5
6
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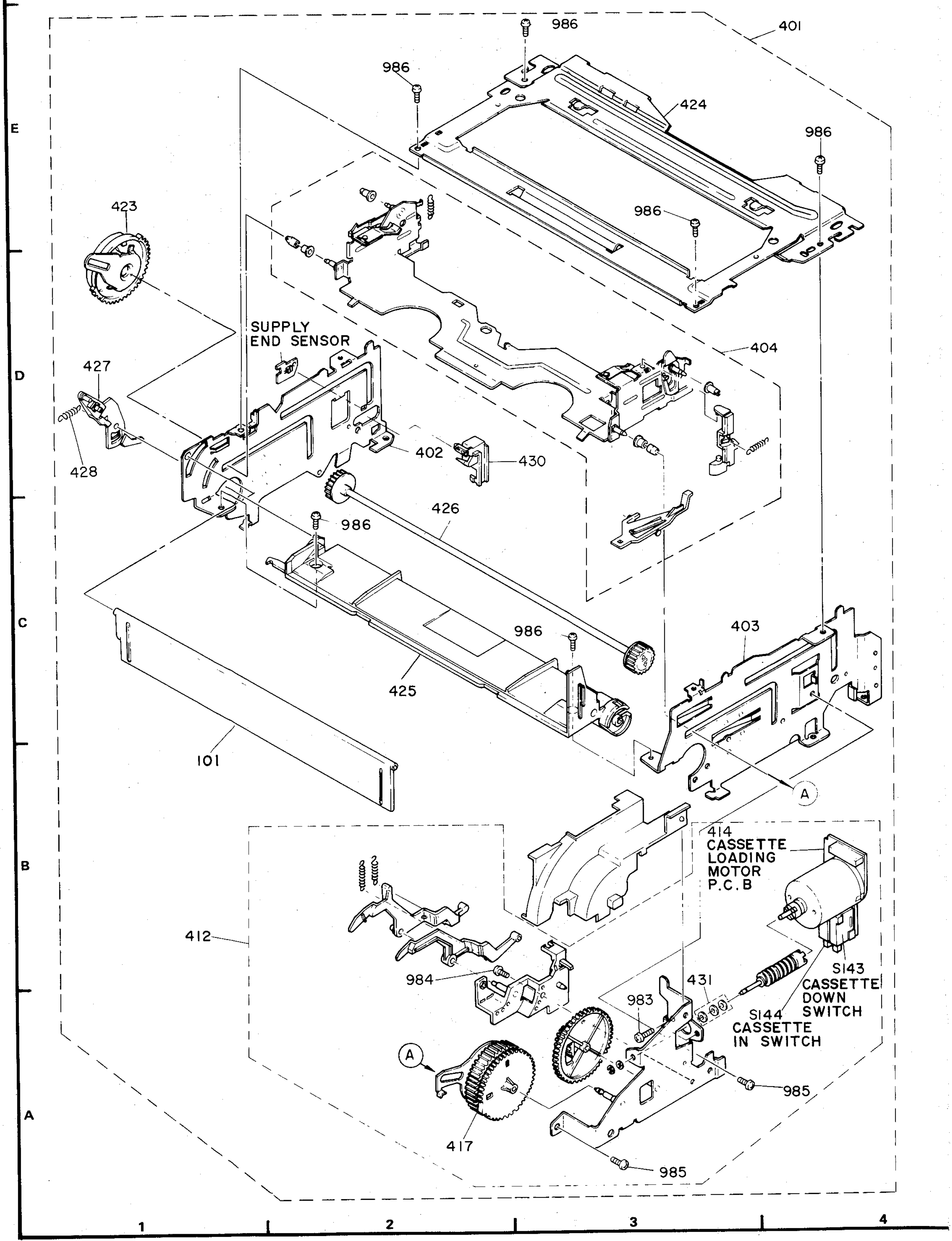
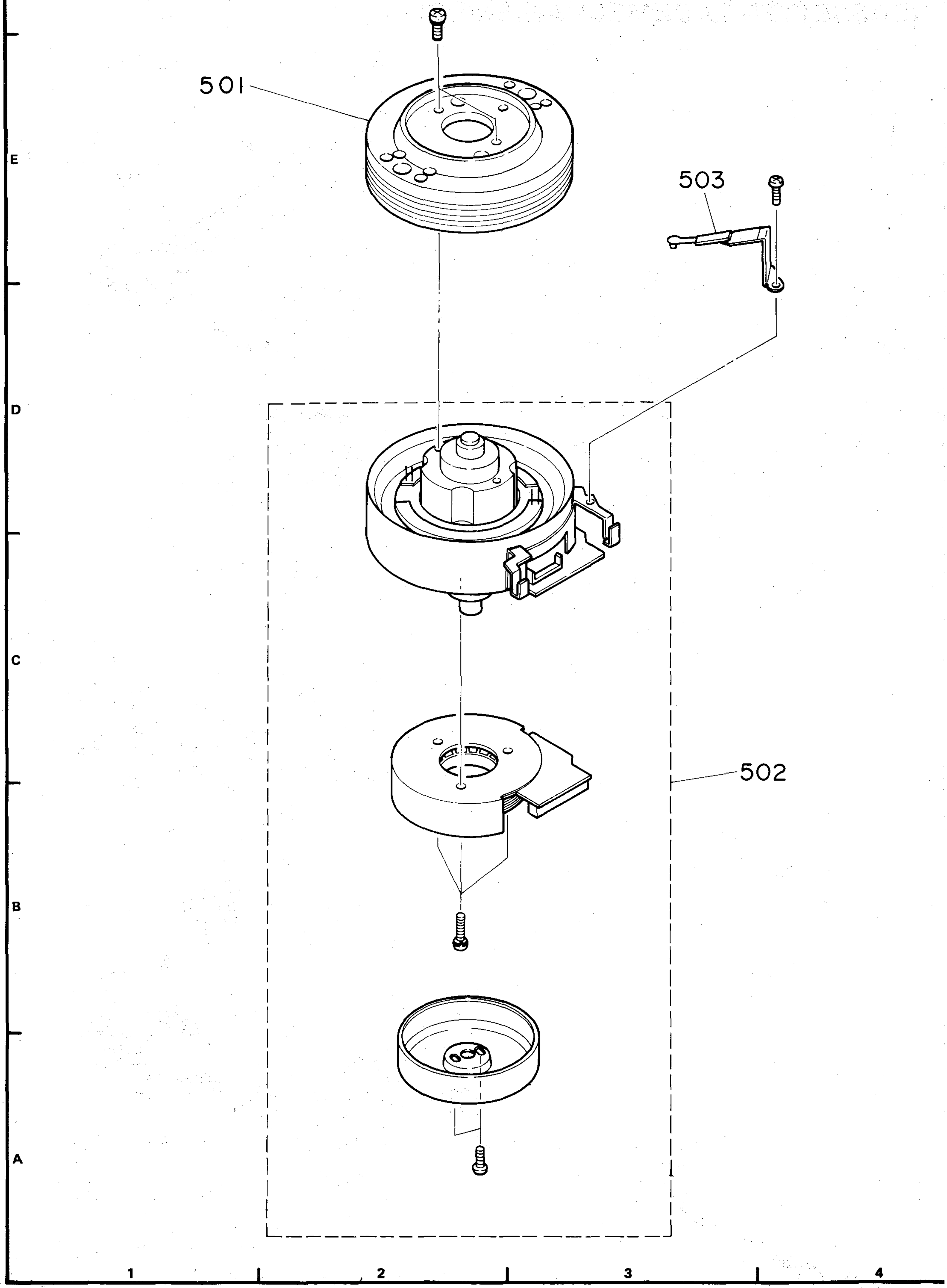
8
9
10
11

CASSETTE LOADING MECHANISM SECTION (CASSETTEN-LADEMECHANISMUS)


986
401
986
424
E
986
423
986
SUPPLY END SENSOR
404
427
D
402
430
428
426
986
C
403
986
425
101
A
414 CASSETTE LOADING MOTOR P.C.B
B
412
S143 CASSETTE DOWN SWITCH
984
431
983
S144 CASSETTE IN SWITCH
A
985
A
417
985
1
2
3
4

CYLINDER MOTOR SECTION (KOPFTROMMELMOTOR)


501
503
502
E
D
C
B
A
1
2
3
4

HITACHI

SERVICE MANUAL

TK **No.2518G**

VT-125E(VPS)
VT-135E(VPS)

AUVICO electronics
Service GmbH
Hans-Bredow Str. 19
28307 Bremen
Tel: 0421 40 40 02
FAX 42 39 60

Technische Informationen

Video-Programm-System

Diese Technischen Informationen beschreiben das Video-Programm-System (VPS).

In dieser Anleitung nicht aufgeführte Informationen sind den Technischen Informationen VT-110E/120E (CT) (Nr. 2512G) zu entnehmen.

Anleitung für Modelle VT-125E(VPS)/135E(VPS)

Titel der Anleitung	Sprache	Anleitung-Nr.	Enthaltene Kapitel
Technische Daten	Englisch	2431E	Kapitel 1 - 6
	Deutsch	2432G	Kapitel 1 - 6
Technische Informationen	Englisch	2517E	---
	Deutsch	2518G	---

VHS
Dieser Videorecorder entspricht dem VHS-Format. Fur problemlosen Betrieb durfen daher nur VHS-Video-Cassetten verwendet werden.

ÄNDERUNGEN DER TECHNISCHEN DATEN UND DES DESIGNS VORBEHALTEN.

VIDEO-CASSETTEN RECORDER

Februar 1987 **TOKAI WORKS**

Inhaltsverzeichnis

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1.2 IC1102 Datenzeilen-Decoder 5

2. Datenzeilen-Slicer 7

3. Datenzeilen-Decoder 9

4. Timer-µP 13

Liste der Unterschiede

	Benennung	VT-120E (CT)	VT-135E (VPS)	VT-125E (VPS)
Merkmale	HQ (High Quality)	Verwendet	Verwendet	Verwendet
	Trick-Wiedergabe	° Bildsuchlauf ° Pause ° Einzelbild (über Fernbedienung) ° Wiederholung	° Bildsuchlauf ° Pause ° Einzelbild (über Fernbedienung) ° Wiederholung ° Zeitlupe	° Bildsuchlauf ° Pause ° Einzelbild (über Fernbedienung) ° Wiederholung
	Einschaltautomatik	Ja	Ja	Ja
	Bildsuchlauf mit Rauschbalkenverriegelung	Ja	Ja	Ja
	Fernbedienung	Infrarot	Infrarot	Infrarot
	Timer-Aufnahmeprogramme	4 Programme während 2 Wochen	4 Programme während 2 Wochen	4 Programme während 2 Wochen
	Timer-Speicherschutz	Etwa 5 Minuten	Etwa 5 Minuten	Etwa 5 Minuten
	Timer-Programm-Zeitanzeige	Gleichzeitig Start- und Stoppzeit	Gleichzeitig Start- und Stoppzeit	Gleichzeitig Start- und Stoppzeit
	Sofortaufnahmefunktion in Intervallen (IRT)	Einstellen der Startzeit	Einstellen der Startzeit und der Aufnahmedauer	Einstellen der Startzeit
	Bandzählwerk-Anzeige	Unabhängig	Unabhängig	Unabhängig
	Speicher-Stoppfunktion	Schneller Vor- und Rücklauf	Schneller Vor- und Rücklauf	Schneller Vor- und Rücklauf
	Kanalwahlfunktion	Spannungssynthesizer (Abstimmautomatik)	Spannungssynthesizer (Abstimmautomatik)	Spannungssynthesizer (Abstimmautomatik)
	Eingangswähler	Nicht vorhanden	Nicht vorhanden	Nicht vorhanden
	Wiedergabe-Bildregler	Hochfrequenzregler	Hochfrequenzregler	Hochfrequenzregler
	Eintasten-Aufnahmefunktion	Ja	Ja	Ja
	Zeitlupen-Spurlagenregler	Nein	Ja	Nein
	VPS (Video-Programm-System)	Nein	Ja	Ja

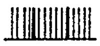
	Benennung	VT-120E (CT)	VT-135E (VPS)	VT-125E (VPS)
Chassis	Chassis-Bauart	UY	UY	UY
	Kopftrommelmotor	Dreiphasen-Motor mit äußerem Rotor, Frequenzgenerator: 300 Hz	Dreiphasen-Motor mit äußerem Rotor, Frequenzgenerator: 300 Hz	Dreiphasen-Motor mit äußerem Rotor, Frequenzgenerator: 300 Hz
	Videoköpfe	2 Köpfe CH-1/CH-2: 65 µm, Steckanschluß	3 Köpfe CH-1/CH-2: 65 µm, CH-3: 33 µm, Steckanschluß	2 Köpfe CH-1/CH-2: 65 µm, Steckanschluß
	Heizung	Keine (mit Kühlkörper)	Keine (mit Kühlkörper)	Keine (mit Kühlkörper)
	Kondensatsensor	Nein	Nein	Nein
Hauptregelungs-ICs	Video-System:			
	Y-Signal-Verarbeitung	HT4727 (IC203)	HT4727AP (IC203)	HT4727 (IC203)
	Chromasignal-Verarbeitung	HT4539 (IC301)	HT4539 (IC301)	HT4539 (IC301)
	Aufnahme/Wiedergabe-Verstärker und Korrektur	HT4708 (IC205) HA11852 (IC204)	HT4708 (IC205) HA11852 (IC1)	HT4708 (IC205) HA11852 (IC1)
	Bildregler	MSM6965RS (IC204)	MSM6965RS (IC204)	MSM6965RS (IC204)
	Audio-System:			
	Aufnahme/Wiedergabe-Verstärker	BA5115L (IC402)	BA5115L (IC402)	BA5115L (IC402)
	Servo-System:			
	Drehzahl-/Phasenregelung	M54898P (IC601)	M54898AP (IC601)	M54898AP (IC601)
	Kopftrommel-Treiber	HA13403 (IC651)	HA13403 (IC651)	HA13403 (IC651)
	Capstanmotor-Treiber	M54648L-B (IC602)	M54648L-B (IC602)	M54648L-B (IC602)
	Regelung für Trick-Wiedergabe	----	M54183P (IC608)	-----
	Systemregelung:			
	Systemregelungs-µP	HD614042SD37 (IC901)	HD614042SD37 (IC901)	HD614042SD37 (IC901)
	Lademotor-Treiber	M54649L (IC902)	M54649L (IC902)	M54649L (IC902)
	Timer:			
	Timer-µP	HD614045SD53 (IC751)	HD614085SA30 (IC751)	HD614085SD30 (IC751)
	Kanalwahlsystem (Abstimmung):			
	Abstimmungs-µP	M50161-354SP (IC801)	M50161-354SP (IC801)	M50161-354SP (IC801)
	Band-Umschaltung	LA7934 (IC802)	LA7934 (IC802)	LA7934 (IC802)
	Stromversorgung:			
	Regler	STK5471 (IC851)	STK5471 (IC851)	STK5471 (IC851)
	VPS:			
	VPS-µP (Video-Programm-System)	----	SAA5235 (IC1101) SAF1134P (IC1102)	SAA5235 (IC1101) SAF1134P (IC1102)

1. VPS-IC-Stift-Belegung (IC1101V, IC1102V)

1.1 IC101: Datenzeilen-Slicer

Typ: SAA5235
Funktion: Dieser Schaltkreis leitet das Datenzeilen-Signal aus dem Videosignal ab und regeneriert die Datenzeilen-Taktfrequenz. Er liefert auch das Signal für den Datenzeilen-Decoder.

Stift-Nr.	E/A	Aktiver Pegel	Abkürzung	Funktion
1	-	-	-	-
2	-	Hi/Lo	GAIN SW	Schaltet den Gewinn des Video-Verstärkers in diesem IC. Hoher Pegel (Hi): Videosignal mit einer Eingangspegelamplitude von 2,5 V. Niederer Pegel (Lo): Videosignal mit einer Eingangspegelamplitude von 1 V.
3	-	-	HF FILTER	Der HF-Verlustkompensator benötigt zwei Kondensatoren für den Betrieb. Der an Stift 3 angeschlossene Kondensator dient als Filter für das Videosignal des HF-Verlustkompensators. Die HF-Amplituden-Information wird in dem an Stift 4 angeschlossenen Kondensator gespeichert.
4	-	-	HF AMP	
5	-	-	AS	Der an den Stift 5 angeschlossene Kondensator speichert die Amplituden-Information für den Datenzeilen-Slicer. Die Nullpegel-Information wird in einem an den Stift 6 angeschlossenen Kondensator gespeichert. Der an den Stift 8 angeschlossene Kondensator ist für die Zeitsteuerung des Datenzeilen-Slicers erforderlich.
6	-	-	ZERO LEVEL	
7	-	-	-	
8	-	-	DT	
9	-	-	PHASE DETECTOR	Die im Phasen-Detektor erfaßte Phasen-Information wird in dem an den Stift 9 angeschlossenen Kondensator gespeichert.
10	-	-	-	-
11	E	-	OSC	Der Ein-Stift-Oszillator benötigt einen 10.000 MHz Kristall-Oszillator (2 x Datenzeilen-Taktfrequenz), der an den Stift 11 angeschlossen ist.
12	E	-	CLOCK FILTER	Eine Taktfrequenz-Filter für die Datenzeilen-Taktfrequenz von 5.000 MHz ist mit dem an den Stift 12 angeschlossenen Phasenschieber verbunden.
13	-	Lo	GND	Masseanschluß für den IC.

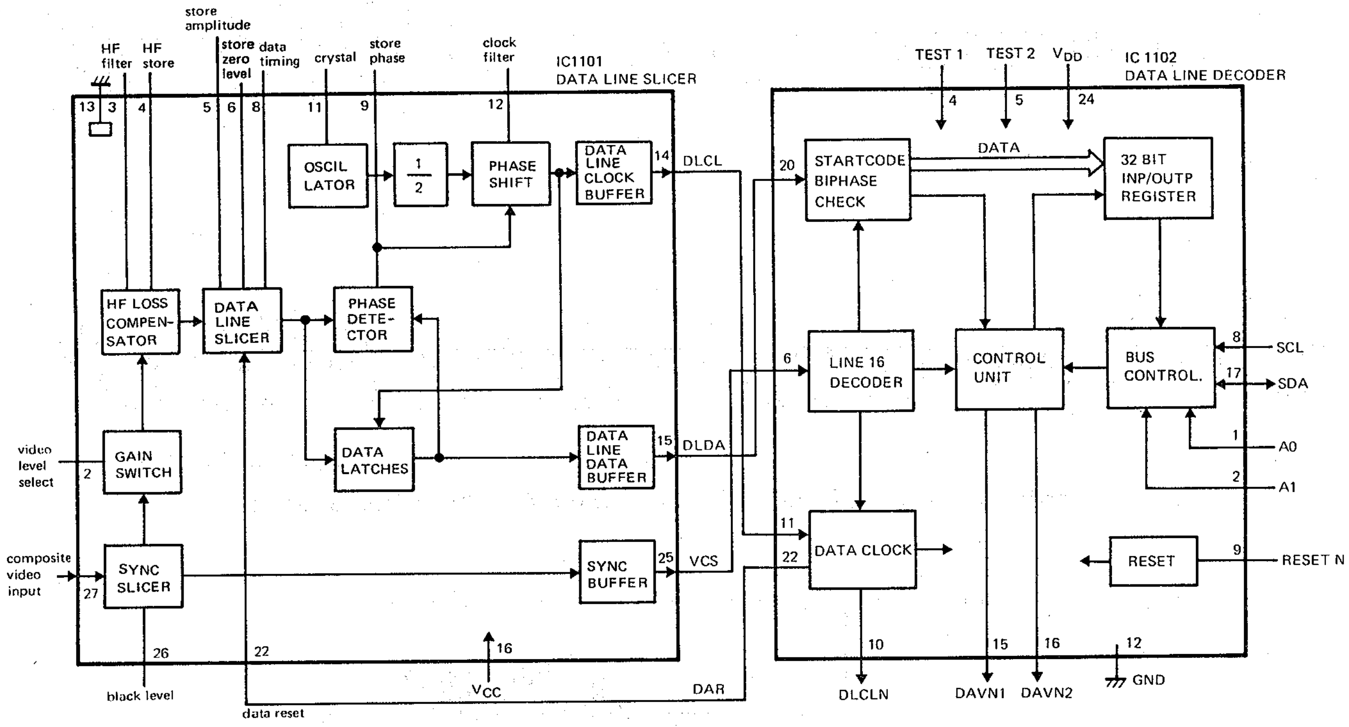
Stift-Nr.	E/A	Aktiver Pegel	Abkürzung	Funktion
14	A		DATALINE CLOCK	Der Datenzeilen-Taktfrequenz-Ausgang (Stift 14) und der Datenzeilen-Datenausgang (Stift 15) liefern die Signale für den Datenzeilen-Detektor.
15	A		DATALINE DATA	
16	E	Hi	Vcc	IC-Stromversorgung (12 V)
17	-	-	-	
18	-	-	-	
19	-	-	-	
20	-	-	-	
21	-	-	-	
22	E	Hi	DATA RESET	Der Datenzeilen-Slicer benötigt ein Rückstellsignal für jede Zeile; das Zeitablaufdiagramm ist in Abb. 4 dargestellt.
23	-	-	-	
24	-	-	-	
25	A		COMPOSITE SYNC	Dieser Stift liefert das Bildaustastsynchronsignal für den Datenzeilen-Decoder.
26	E	-	BLACK LEVEL	Der an diesen Stift angeschlossene Kondensator speichert den Schwarzpegel für den adaptiven Synchronsignal-Separator.
27	E	-	VIDEO	Das Bildaustastsynchronsignal muß über einen Klemmkondensator an diesem Eingang eingespeist werden. Die Eingangsamplitude hängt von der Position des an Stift 2 angeschlossenen Gewinnschalters ab.

1.2 IC1102 Datenzeilen-Decoder

Typ: SAF1134P
Funktion: VPS-Decoder

Stift-Nr.	E/A	Aktiver Pegel	Abkürzung	Funktion
1	E	Hi/Lo	A0 ADDRESS	Nicht belegt. (Die Adresse des Datenzeilen-Decoders zuordnen.)
2	E	Hi/Lo	A1 ADDRESS	
4	E	Hi	TEST 1	Nicht belegt. (Wird für Prüfungen verwendet.)
5	E	Hi	TEST 2	
6	E		COMPOSITE SYNC	Stellt die 16. Zeile fest.
8	E	↑ ↓	SERIAL CLOCK	Taktfrequenzimpuls erforderlich, um die VPS-Daten an den Timer zu übertragen.
9	E	Lo	RESET	Dient für die Rückstellung des Zeitsteuer-Schaltkreises, des Regelregisters, des Datenregisters usw. in dem IC.
10	A	↑ ↓	$\overline{\text{DATA LINE CLOCK}}$	Ausgang für invertierten Daten-Taktfrequenzimpuls.
11	E	↑ ↓	DATA LINE CLOCK	Dient für das Dekodieren der VPS Biphasen-Daten. 5 MHz
12	E	Lo	GND	
3, 7, 13, 14, 18, 19, 21				Nicht belegt.
15	A	Lo	DAVN 1	Nicht belegt. Hier wird ein niederpegeliges "Lo" Signal ausgegeben, wenn das effektive VPS-Signal festgestellt wird.
16			DAVN 2	
17	A	↑ ↓	SERIAL DATA	Vor hier werden die VPS-Daten - Tag, Monat, Stunde, Minute, Programmquelle, Sonderstatus-Code - an den Timer ausgegeben.
18	E		DATA LINE DATA	Empfängt ein Signal der 16. Zeile der VPS-Daten.

Stift-Nr.	E/A	Aktiver Pegel	Abkürzung	Funktion
20	A	Lo	DATA RESET	Ausgang für das Rückstellsignal ("Lo") mit der aus dem Bildaustastsynchronsignal abgeleiteten Frequenz mit einer Dauer von 7,8 µs, um den Daten-Separator und den Daten-Taktfrequenz-Phasendetektor in diesem Datenzeilen-Slicer zurückzustellen.
22	A	Hi	VDD	Stift für Stromversorgung

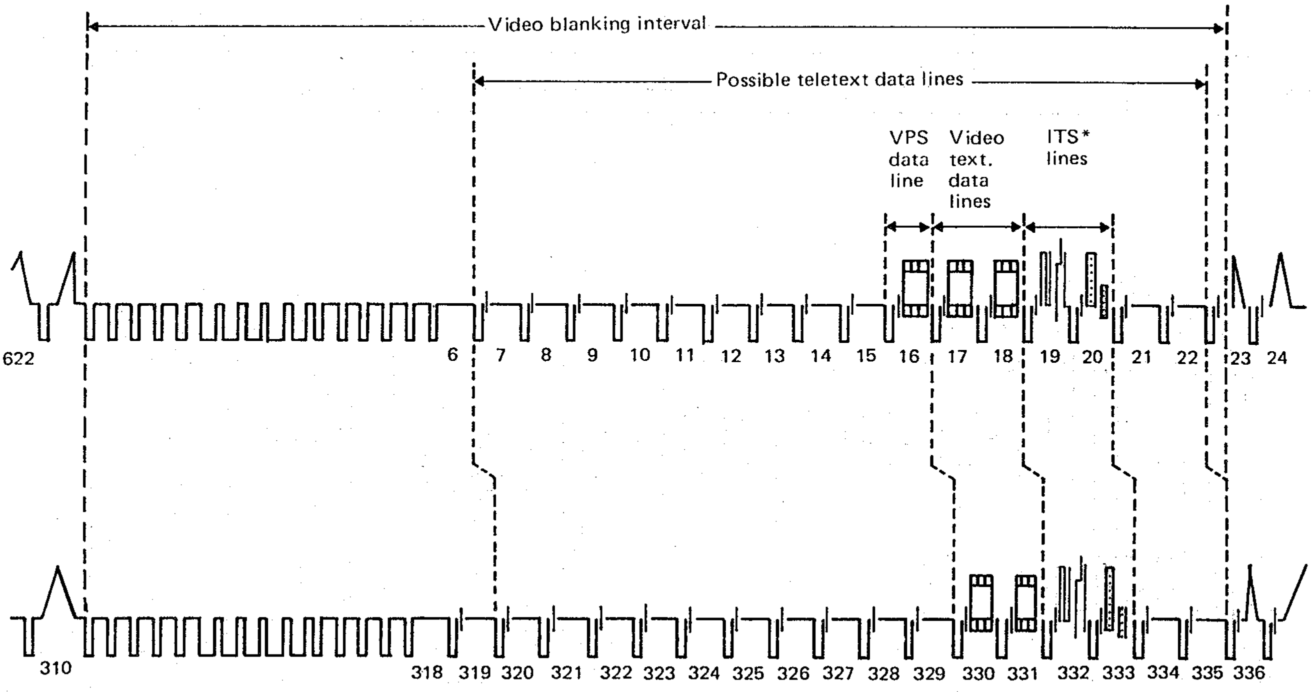


store amplitude
HF filter
HF store
store zero level
data timing
crystal
store phase
clock filter
IC1101
DATA LINE SLICER
13
3
4
5
6
8
11
9
12
OSCIL LATOR
1/2
PHASE SHIFT
DATA LINE CLOCK BUFFER
14
DLCL
HF LOSS COMPEN-SATOR
DATA LINE SLICER
PHASE DETE-CTOR
video level select
2
GAIN SWITCH
DATA LATCHES
DATA LINE DATA BUFFER
15
DLDA
composite video input
27
SYNC SLICER
SYNC BUFFER
25
VCS
26
22
16
black level
data reset
VCC
DAR
TEST 1
TEST 2
VDD
IC 1102
DATA LINE DECODER
4
5
24
20
STARTCODE BIPHASE CHECK
DATA
32 BIT INP/OUTP REGISTER
6
LINE 16 DECODER
CONTROL UNIT
BUS CONTROL.
8
SCL
17
SDA
1
A0
2
A1
11
22
DATA CLOCK
RESET
9
RESET N
10
15
16
12
DLCLN
DAVN1
DAVN2
GND

Abb. 1 Blockschaltbild für VPS-Slicer/Decoder

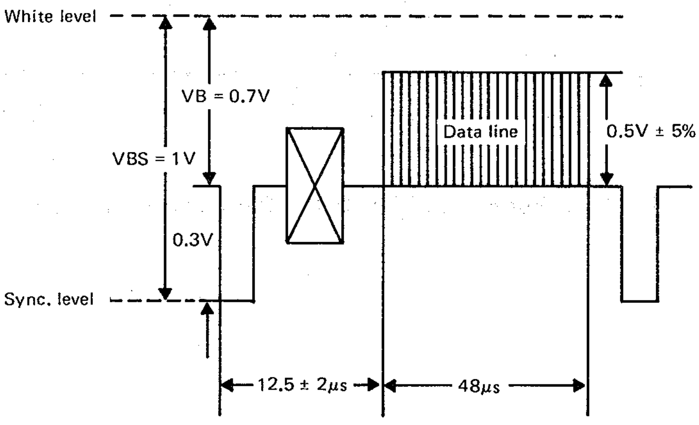
2. Datenzeilen-Slicer

Kombiniert mit einem Videosignal-Verarbeitungsschaltkreis (Datenzeilen-Slicer), empfängt und dekodiert der SAF1134P Datenzeilen-Decoder die zusätzlichen Daten (siehe Abb. 3), die in der 16. Zeile des TV-Signals (Abb. 2, 3) für das Video-Programm-System (VPS) enthalten sind. Diese Daten werden über einen Schnittstellen-Bus für die nachfolgende Verarbeitung geleitet.


Video blanking interval
Possible teletext data lines
VPS data line
Video text. data lines
ITS* lines
622
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
310
318
319
320
321
322
323
324
325
326
327
328
329
330
331
332
333
334
335
336

*ITS: Insertion Test Signal

Abb. 2 Videosignal mit Position der VPS-Datenzeile


White level
VB = 0.7V
VBS = 1V
0.3V
Sync. level
Data line
0.5V ± 5%
12.5 ± 2μs
48μs

Degree of modulation = 71.4%

Abb. 3 Einfügen der Datenzeile in das Videosignal

Da die Programme während der Übertragung mit einem für die Identifikation verwendeten Steuerzeichen versehen sind, ermöglicht die Verwendung eines Datenzeilen-Decoders eine zeitgerechte Aufnahme bestimmter Programme durch den Videorecorder. Dadurch wird bei Programmänderungen die Aufnahme falscher Sendungen vermieden.

Der IC1101 Datenzeilen-Slicer extrahiert die Datenzeilen-Signale und das Bildaustastsynchronsignal und regeneriert die Datenzeilen-Taktfrequenz. Die extrahierten Signale werden an den Datenzeilen-Decoder IC1102 gesandt. In Abb. 4 ist das Zeitablaufdiagramm der Ein-/Ausgangssignale des Datenzeilen-Slicers dargestellt.

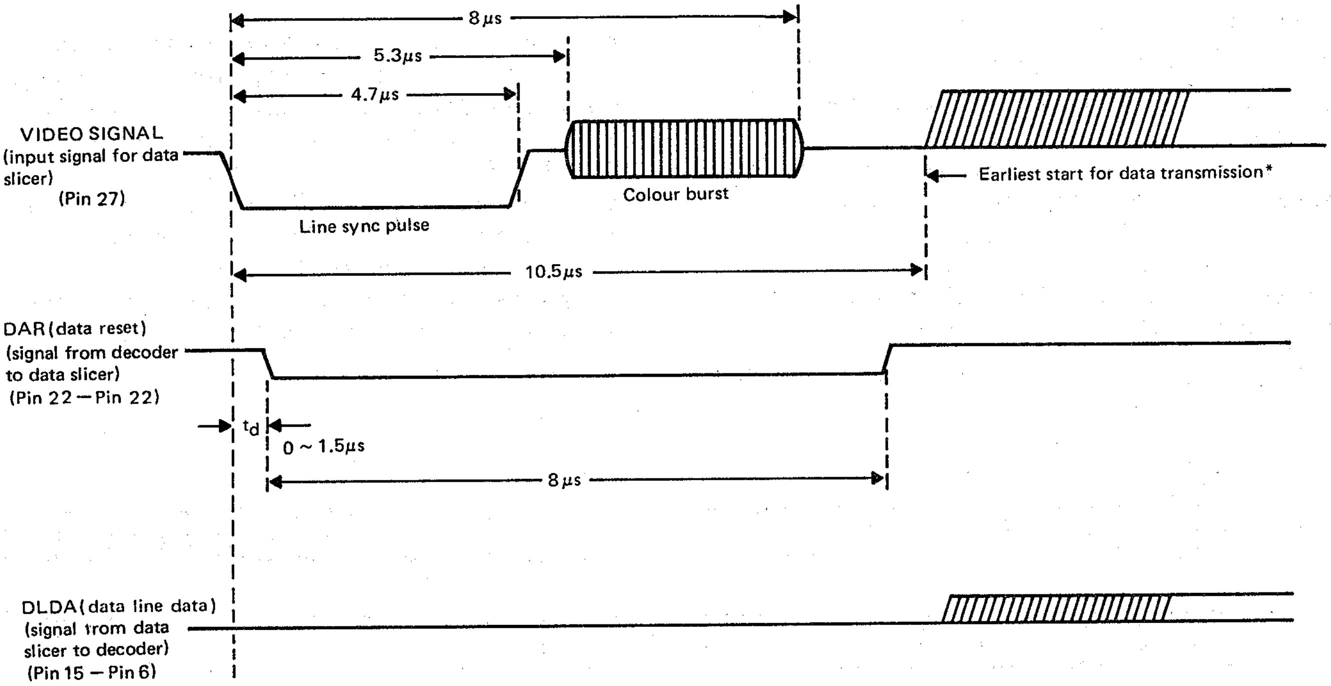

8μs
5.3μs
4.7μs
VIDEO SIGNAL
(input signal for data slicer)
(Pin 27)
Colour burst
Line sync pulse
Earliest start for data transmission*
10.5μs
DAR (data reset)
(signal from decoder to data slicer)
(Pin 22 — Pin 22)
t_d
0 ~ 1.5μs
8μs
DLDA (data line data)
(signal from data slicer to decoder)
(Pin 15 — Pin 6)

Abb. 4 Zeitablaufdiagramm für Datenzeilen-Slicer

3. Datenzeilen-Decoder

Der IC1102 Datenzeilen-Decoder dekodiert die VPS-Informationen, die in Zeile 16 (erstes Halbbild) des von ARD und ZDF übertragenen TV-Signals enthalten sind. Mit einer Datenrate von 2,5 MBit/s werden diese Daten mit Hilfe von Biphasen-Modulation übertragen. Die Abb. 5 zeigt den Zusammenhang zwischen den Startcode-Wellenformen für Wort 2 und dem Biphasen-Daten-Detektor. Jede Datenzeile - Zeile 16 des Fernsehbildes - enthält 1 Byte (= 120 Bit) (Abb. 6).

Für das Video-Programm-System (VPS) sind nur die Worte 11, 12, 13 und 14 von Bedeutung. Diese Wörter werden von dem Decoder kontrolliert und - wenn gültig - an ein 32-Bit Eingangsregister übertragen. Die Datenzeile 16 wird dann mit Hilfe des normalen Bildaustastsynchronsignals festgestellt.

Falls die eingehende Datenfolge DLDA dem festgelegten Bit-Muster des Startcodes entspricht, dann wird die Datenzeile identifiziert. Die Datenworte 11, 12, 13 und 14 werden dekodiert, auf Biphasen-Fehler kontrolliert und danach - wenn gültig - in das bereits oben beschriebene Eingangsregister eingegeben. Anschließend erfolgt die Übertragung dieser Daten an das Ausgangsregister.

Ein Auslesen der im Ausgangsregister enthaltenen Daten durch den Timer-µP ist über den Schnittstellen-Bus in SAF1134 möglich. Die Datenübertragung dieses Schaltkreises ist vollständig transparent, d.h. die Daten werden nicht modifiziert. Die jeweils letzte gültige VPS-Information wird in dem Ausgangsregister gespeichert, bis das Auslesen über den Bus beendet wurde.

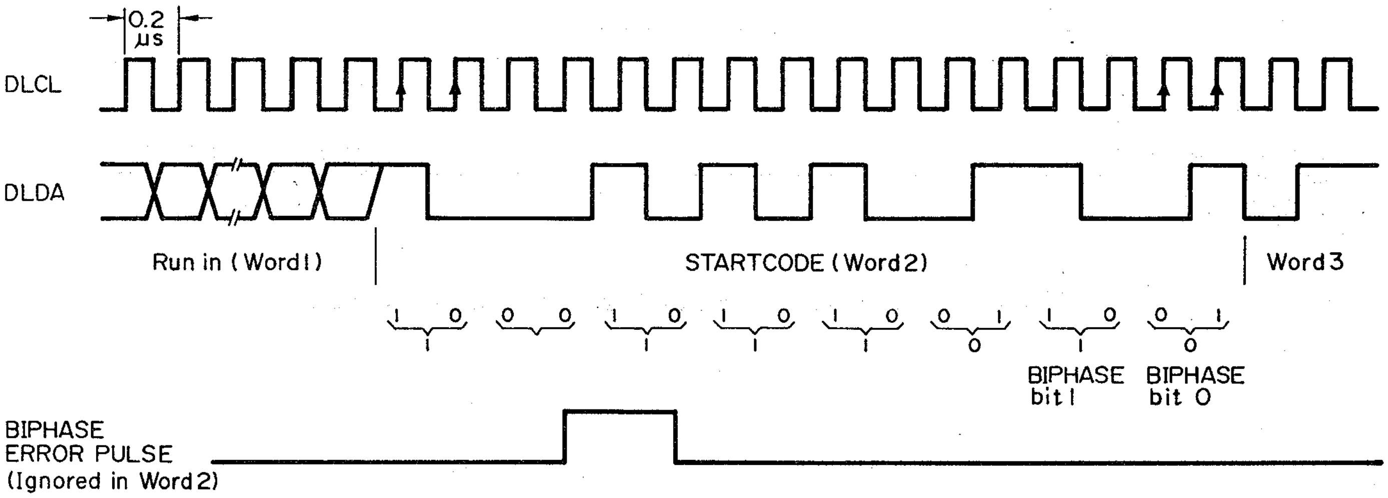

0.2 µs
DLCL
DLDA
Run in (Word1)
STARTCODE (Word2)
Word3
1 0 0 0 1 0 1 0 1 0 0 1 1 0 0 1
1 1 1 1 0 1 0
BIPHASE bit 1
BIPHASE bit 0
BIPHASE ERROR PULSE (Ignored in Word2)

Abb. 5 Feststellen von Startcode und Biphasen-Fehler

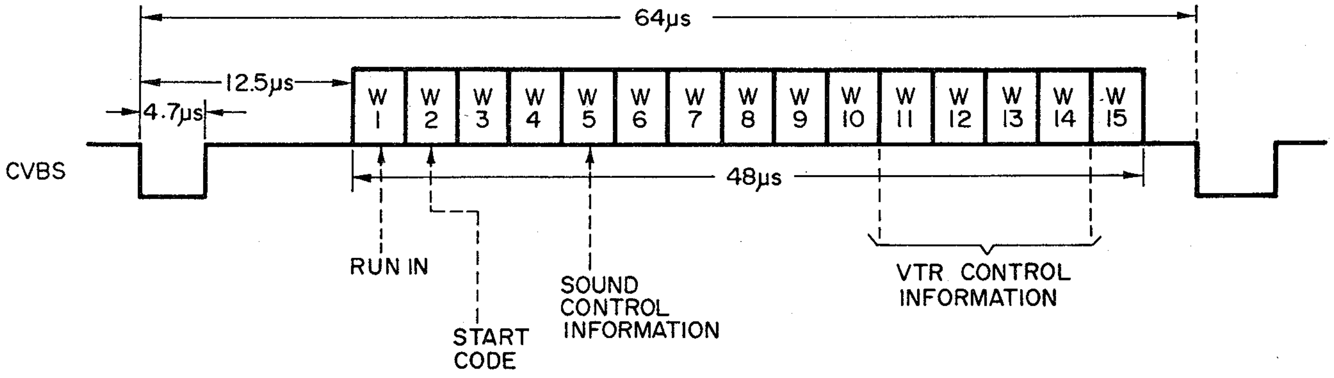

64µs
12.5µs
4.7µs
W 1
W 2
W 3
W 4
W 5
W 6
W 7
W 8
W 9
W 10
W 11
W 12
W 13
W 14
W 15
CVBS
48µs
RUN IN
START CODE
SOUND CONTROL INFORMATION
VTR CONTROL INFORMATION

Abb. 6 Datenzeilen-Daten

Bus-Schnittstelle

Bei dem BUS handelt es sich um einen bidirektionalen Bus mit zwei Leitungen, bei dem die Datenleitung SDA und die Taktfrequenzleitung SCL über externe Widerstände mit V_{DD} verbunden sind. Alle Signale sind bei niederem "Lo" Pegel aktiv. Eine Datenübertragung ist nur zulässig, nachdem die Startbedingung "S" definiert wurde.

Übertragung eines Bits

Ein Daten-Bit kann auf der SDA Leitung nur während eines Taktfrequenzimpulses übertragen werden, der über die gesamte Impulsdauer (SCL = HIGH) konstant sein muß, da Interferenzen Änderungen im START/STOP Status hervorrufen können.

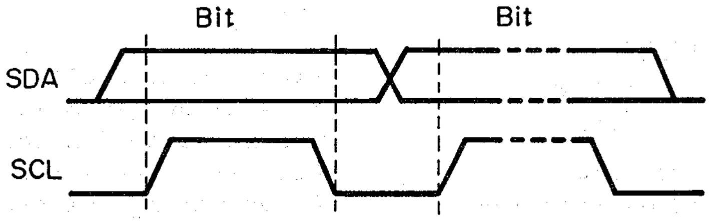


Abb. 7 Übertragung eines Bits

START/STOP Bedingungen

Außer Betrieb weisen die Leitungen SDA und SCL einen hohen "HIGH" Pegel auf. Ein H/L (hoch/nieder) Wechsel in der SDA Leitung (SCL = HIGH) entspricht der START Bedingung "S", wogegen ein L/H (nieder/hoch) Wechsel in der SDA Leitung (SLC = HIGH) der STOP Bedingung "P" entspricht.

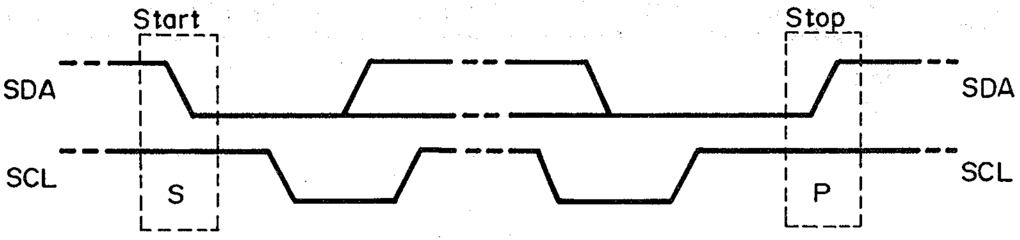


Abb. 8 Start/Stop-Bedingungen

Quittierung

Die Anzahl der Bits zwischen START und STOP ist normalerweise nicht begrenzt.

Jedes Byte enthält 8 Daten-Bits (Daten, Adressen, Befehle) und ein zusätzliches Quittungsbit.

Für die Übertragung des Quittungs-Status muß SDA einen hohen "HIGH" Pegel aufweisen, damit der Empfänger während der Dauer des Taktfrequenzimpulses SCL Nr. 9 die Quittierung vornehmen kann, indem SDA auf einen niederen "LOW" Pegel gebracht wird. Die Quittierung kann von dem Timer-µP ausgegeben werden.

Auch wenn die Quittierung entfällt, kann ein SCL Timer (Master-Empfänger) das Ende der Datenübertragung definieren.

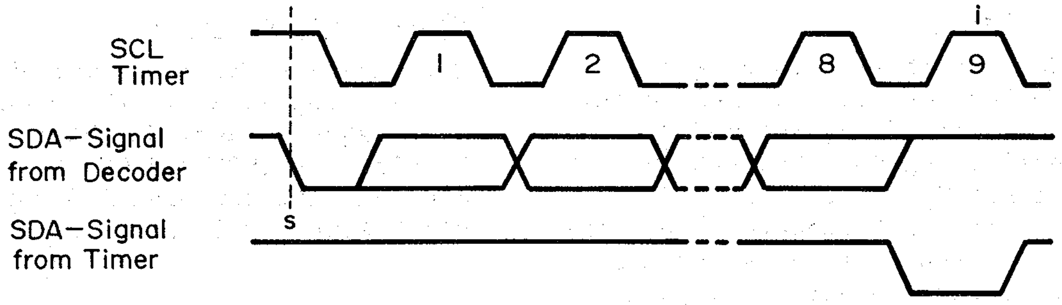
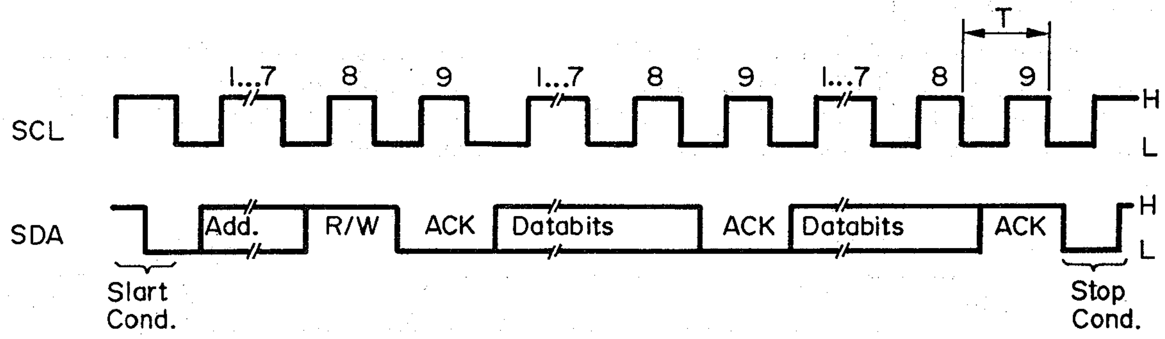

SCL
Timer
SDA−Signal
from Decoder
SDA−Signal
from Timer
s
1
2
8
9

Abb. 9 Quittungssignal

Datenübertragung (allgemein)

Der Decoder beginnt mit der START Bedingung und dem Adressen-Byte.

Bit Nr. 8 des Adressen-Byte R/W bezeichnet die WRITE (R/W=0) Schreib- oder READ (R/W=1) Lese-Bedingung. Die vier dem Start-Bit nachfolgenden Bits definieren den Decoder-Schaltkreis und sind vom Hersteller festgelegt. Die Bits A1 und A0 müssen der Verdrahtung der Adressen-Einstelleingänge des Decoder-IC entsprechen. Bei richtiger Adressierung quittiert der Timer mit "A". Das zweite Byte kann weitere Daten oder Befehle enthalten.


T
1...7
8
9
1...7
8
9
1...7
8
9
SCL
H
L
SDA
Add.
R/W
ACK
Databits
ACK
Databits
ACK
H
L
Start
Cond.
Stop
Cond.

Read out of the 32 bit output register:

S	0010 0XX1	A	XXXX XXXX	A	XXXX XXXX	A	XXXX XXXX	A	XXXX XXXX	A	P
	Address byte		word 11		word 12		word 13		word 14		

S = Start conditon, P = Stop condition, A = Acknowledge = 0
A = no acknowledge = 1

SCL period: T>10µS

Abb. 10 Serielle Datenübertragung vom Decoder zum Timer

SAF1134 Adresse
(1. Byte nach der Start-Bedingung

0010	0A1	A0	R/W

SAF1134 dient als Slave-Sender nur für das Lesen (R/W=1).

Die Adressen-Einstelleingänge A1 und A0 sind mit 0, 0 festgelegt. Bei den restlichen Byte handelt es sich um Daten-Byte: Werden mehr als 4 Daten-Byte ausgelesen, dann werden die Wörter 12, 13 und 14 wiederholt.

Die Abb. 13 zeigt Einzelheiten der seriellen Datenübertragung von dem Decoder an den Timer.

Word-No.	5		
Bit— No.	1 2 3 4 5 6 7 8		
	Bit1	Bit2	Status
Label binary	0	0	2-Channel
	0	1	Mono
	1	0	Stereo
	1	1	2-Channel
System-Status-Code	Bit3	Bit4	
Dummy-Code	1	0	not for children
Interrupt-Code	0	1	free

VTR-Control-Information

Word-No.	11								12								13								14							
Bit— No.	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Label binary	Address-range		Day					Month				Hour					Minute						Nation				Program-Source					
			Special System-Code																													
System-Status-Code	1	X	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	NC . . NC				PC . . . . PC					
Dummy-Code	1	X	0	0	0	0	0	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	NC . . NC				PC . . . . PC					
Interrupt-Code	1	X	0	0	0	0	0	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	NC . . NC				PC . . . . PC					

X ≙ 0,1

NC ≙ Nation Code
PC ≙ Program-Source-Code

Abb. 11 Videorecorder-Steuerinformationen in Datenzeile 16

Der Datenzeilen-Decoder überträgt die Daten etwa einmal pro Sekunde an den Timer-µP. Wenn der Decoder keine Daten an den Timer-µP überträgt, dann werden die seriellen Daten SDA auf einem hohen "Hi" Pegel gehalten. Der Decoder weist jedoch nur äußerst selten Betriebsstörungen auf, so daß SDA nach Beendigung der Datenübertragung auf einem niederen "Lo" Pegel gehalten wird. In diesem Fall können der Timer-µP und der Decoder keine Daten austauschen. Q1102 und Q1103 werden in den leitenden Zustand versetzt, wenn SDA auf einem niederen "Lo" Pegel gehalten wird (siehe Technische Daten), und legen das niederpegelige "Lo" Signal an den Stift 9 (RESET) an, um die Rückstellung des Decoders vorzunehmen.

4. Timer µP

Mit dem Programmieren des Timers wird der VPS ON Befehl des Timer-µP automatisch in ein Programm eingegeben. Im VPS ON Modus erfolgt die Timer-Aufnahme mit Hilfe des VPS Code. Wenn bei programmiertem Timer der VPS OFF Schalter (S767) gedrückt (siehe Technische Daten) wird, so daß die VPS Anzeige in der Flüssigkristallanzeige erlischt, dann wird der VPS OFF Befehl in das Programm eingegeben. Im VPS OFF Modus wird der VPS Code ignoriert, so daß die normal programmierten Timer-Aufnahmen ausgeführt werden.

Im VPS ON Modus wird der Timer-µP während der Timer-Aufnahme-Bereitschafsfunktion auf den Kanal-Suchlaufmodus geschaltet. In dem Kanal-Suchlaufmodus wählt der Timer-µP jede Sekunde den Kanal an, für den die Startzeit für die Timer-Aufnahme zwischen 4:00 morgens (heute) und 3:59 morgens (des nächsten Tages) programmiert wurde, und überwacht den VPS Code. Danach schaltet der Timer-µP den Videorecorder anhand des von dem Decoder übertragenen Code auf die Aufnahme. Die Tabelle 1 zeigt die Timer-Operation, wenn der vom Decoder übertragene Time-Code und der spezielle System-Code empfangen werden. In der Tabelle 2 ist dagegen dargestellt, wie der Modus des Timer-µP in Abhängigkeit von dem VPS Code umgeschaltet wird.

Tabelle 1 Funktionen des VPS Code

Symbol	Wort	Bedeutung/Code	Videorecorder	Hinweise
C	CORRECT	Geicher Code wie programmiert.	Aufnahme gemäß VPS	
W	WRONG	Code weicht vom Timer-Programm ab	Keine Aufnahme	
S	SYSTEM STATUS	Code = 31 St. 63 Min.	Aufnahme gemäß Uhrzeit	Die Aufnahme kann bis zu 2 Minuten vor der programmierten Startzeit beginnen.
I	INTERRUPTION	Code = 29 St. 63 Min.	Aufnahme stoppt und wartet auf den richtigen VPS Code von dem Fernsehsender im Bereitschaftsmodus.	Diese Bedingung kann bis zu 3 Stunden nach dem Empfang dieses Code andauern.
D	DUMMY CODE	Code = 30 St. 63 Min.	Keine Aufnahme	
N	NOTHING	Kein VPS Code	Innerhalb der programmierten Aufnahmezeit: Aufnahme gemäß Timer	Die Aufnahme wird fortgesetzt, auch wenn der VPS Code für nicht länger als eine Minute ausbleibt.
			Außerhalb der programmierten Aufnahmezeit: Keine Aufnahme	

Tabelle 2 Umschalten des Betriebsmodus gemäß VPS Code

<table>
<tr><th colspan="2" rowspan="2">Nach VPS Code im Symbol
Derzeitiger Modus des Videorecorders
Modus Nr.</th><th rowspan="2">C</th><th colspan="2" rowspan="2">W</th><th colspan="3">S</th><th rowspan="2">I</th><th colspan="2" rowspan="2">D</th><th colspan="4">N</th></tr>
<tr><th>4) innerhalb</th><th colspan="2">4) außerhalb</th><th>5) 1 Min. halten</th><th>4) innerhalb</th><th colspan="2">4) außerhalb</th></tr>
<tr><td rowspan="2">1</td><td>1) Bereitschaft
(im Kanal-Suchlaufmodus)</td><td>Start der Timer-Aufnahme</td><td colspan="2">-</td><td>Start der Timer-Aufnahme</td><td colspan="2"></td><td></td><td colspan="2"></td><td></td><td></td><td colspan="2"></td></tr>
<tr><td>nach Modus-Nr.</td><td>3</td><td colspan="2">1</td><td>3</td><td colspan="2">1</td><td>1</td><td colspan="2">1</td><td>1</td><td>3</td><td colspan="2">1</td></tr>
<tr><td rowspan="2">2</td><td>1) Bereitschaft
2) (im Unterbrechungsmodus)</td><td>Start der Timer-Aufnahme</td><td colspan="2"></td><td>Start der Timer-Aufnahme</td><td colspan="2">-</td><td>-</td><td colspan="2">-</td><td>-</td><td>Start der Timer-Aufnahme</td><td colspan="2">-</td></tr>
<tr><td>nach Modus-Nr.</td><td>3</td><td colspan="2">2</td><td>3</td><td colspan="2">2</td><td>2</td><td colspan="2">2</td><td>2</td><td>3</td><td colspan="2">2</td></tr>
<tr><td rowspan="3">3</td><td rowspan="2">Timer-Aufnahme</td><td rowspan="2">-</td><td>Unterbrechung</td><td>Sonstiges</td><td rowspan="2">-</td><td>Unterbrechung</td><td>Sonstiges</td><td rowspan="2">Timer-Bereitschaft</td><td>Unterbrechung</td><td>Sonstiges</td><td rowspan="2">-</td><td rowspan="2">-</td><td>Unterbrechung</td><td>Sonstiges</td></tr>
<tr><td>Timer-Bereitschaft</td><td>Timer-Bereitschaft</td><td>Timer-Bereitschaft-</td><td>Timer-Bereitschaft</td><td>Timer-Bereitschaft</td><td>Timer-Bereitschaft</td><td>Timer-Bereitschaft</td><td>3) Timer-Bereitschaft</td></tr>
<tr><td>nach Modus-Nr.</td><td>3</td><td>2</td><td>1</td><td>3</td><td>2</td><td>1</td><td>2</td><td>2</td><td>1</td><td>3</td><td>3</td><td>2</td><td>1</td></tr>
</table>

Hinweise:

1) Bereitschaft: Betriebsschalter ausgeschaltet und Wartefunktion für programmierte Aufnahme.
2) Unterbrechungsmodus: Überwachung nur eines Kanals, der mittels Timer-Programm aufgezeichnet wurde, nach dem Empfang des Unterbrechungs-Code.
3) Falls der Timer-µP nach dem Empfang des Code "C" oder "S" die Timer-Aufnahme beginnt und während der Timer-Aufnahme den Code "N" empfängt, dann schaltet er auf den Unterbrechungs-Modus.
4) Innerhalb = Innerhalb der programmierten Timer-Aufnahmezeit.
4) Außerhalb = Außerhalb der programmierten Timer-Aufnahmezeit.
5) 1 Min. halten = Die Timer-Aufnahme wird für eine Minute fortgesetzt, nachdem der VPS Code ausbleibt.

HITACHI SERVICE MANUAL

TK

No.2548E·G

VT-125E(VPS/VPSK)
VT-135E(VPS)

SUPPLEMENT

AUVICO electronics
Service GmbH
Hans-Bredow Str.19
28307 Bremen
Tel: 0421 40 40 02
FAX 42 39 60

Technical Data

This service manual describes the following items of models VT-125E (VPS/VPSK) and VT-135E (VPS) which satisfy the new FTZ standards.

Items described in this manual
• Schematic diagram • Circuit board diagram • Replacement parts list • Exploded view

See the following service manual for the items other then above.

Referred manual	
VT-125E (VPS) VT-135E (VPS)	: No. 2431E

To discriminate the FTZ-standard models
The units provided with the brackets at the lower sections on both sides are the models which satisfy the new FTZ standards.

Diese Wartungsanleitung beschreibt die folgenden Punkte der modelle VT-125E (VPS/VPSK) und VT-135E (VPS), die dem neuen FTZ-Standard entsprechen.

Die folgenden Punkte sind in dieser Anleitung beschrieben
• Schaltplan • Leiterplatten-Diagramm • Ersatzteilliste • Auseinadergezogene Darstellung

Andere als die oben beschriebenen Punkte sind der folgenden Wartungsanleitung zu entnehmen.

Zu beachtende Anleitung	
VT-125E (VPS) VT-135E (VPS)	: No. 2432G

Kennzeichnung der dem FTZ-Standard entsprechenden Modelle
Geräte, die mit Halterungen an beiden Seiten im unteren Teil ausgerüstet sind, sind die Modelle, die dem neuen FTZ-Standard entsprechen.

VHS

THIS VIDEO DECK IS A VHS TYPE VIDEO RECORDER.
FOR PROPER OPERATION, ONLY THE VHS TYPE CASSETTE MUST BE USED.

SPECIFICATIONS AND PARTS ARE SUBJECT TO CHANGE FOR IMPROVEMENT

VIDEO CASSETTE RECORDER

August 1986 **TOKAI WORKS**

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INHALTSVERZEICHNIS

KAPITEL 5

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VT-135E (VPS) 5-32
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LUMINANZ/ENTZERRE

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VT-135E (VPS) 5-33

SERVO [VT-125E (VPS/VPSK)]

Schaltplan 5-35
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VPS (Video-Programm-System)

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AUDIO/BUCHSE [VT-125E (VPS/VPSK)]

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SYSTEMREGELUNG [VT-125E (VPS/VPSK)]

Schaltplan 5-45
Leiterplatten-Diagramm
Hauptplatte 5-48
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SYSTEMREGELUNG [VT-135E (VPS)]

Schaltplan 5-54
Leiterplatten-Diagramm
Hauptplatte 5-51
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AUDIO/BUCHSE

Schaltplan 5-57
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SERVO [VT-135E (VPS)]

Schaltplan 5-62
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Wellenform 5-60

KAPITEL 6

ERSATZTEILLISTE

ELEKTRISCHE STÜCKLISTE 6-1

MECHANISCHE STÜCKLISTE

Gehäuse 6-12
Chassis/Cassetten-Lademechanismus/
Kopftrommelmotor 6-12

EXPLOSIONSZEICHNUNG

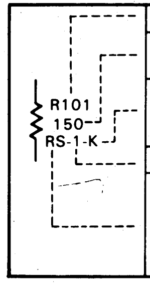
Gehäuse 6-14
Chassis (I) 6-17
Chassis (II) 6-18
Cassetten-Lademechanismus 6-20
Kopftrommelmotor 6-21

CHAPTER 5

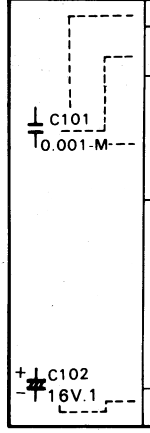
SCHEMATIC/CIRCUIT BOARD DIAGRAMS

Note

1. Voltage measured at base of chassis with minimum volume control and no signal.
   (   ) are shown in recording condition.
2. Nomenclature of Resistors and Capacitors.



Circuit No.	
Value	No indicated Ω (Ohm) M : 1000kΩ
Tolerance	No indicated ±5% K: ±10% M: ±20%
Wattage	No indicated ¼ W
Sort	No indicated Carbon film RC : Composition RW : Wire wound RS : Oxide metal film RN : Fixed metal film



Circuit No.		
Value	No indicated μF P : PF	
Tolerance	No indicated ±10% J : ± 5% M: ±20% Z : +80%, −20% D : ±0.5pF C : ±0.25pF	
Sort	╪	Ceramic
	+╪−	Electrolitic
	M╪	Mylar
	P╪	Polyester
	S╪	Styrol
Voltage	No indicated 50WV	

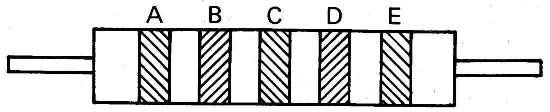
3. Be sure to make your orders of resistors and capacitors with value, voltage, tolerance and sort.
4. When replacing capacitors marked with * use specified ones stated on parts list since required temperature characteristics.

Cautions on use of MOS IC

1. The MOS IC is inserted in black foam for shipment. This foam is a conductor which short-circuits between the leads to prevent damage. Do not remove ICs from this foam during their storage. Avoid removing ICs from this foam, placing them on plastic which is likely to be charged with static electricity or inserting them into styrol foam.
2. High voltages may be applied during soldering caused by leakages from the soldering iron, so be sure to ground the tip of the soldering iron or use a low voltage soldering iron.
3. The human body, clothes made of synthetic fibres or nylon gloves may be charged with several thousands volts of static electricity because of friction, so a worker should be grounded.
4. Be sure to ground measuring instruments such as oscilloscopes, VTVMs, etc. used for repairs.

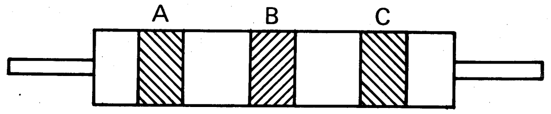
HOW TO READ CAPACITY AND INDUCTANCE OF RESISTOR SHAPE CAPACITORS AND COILS

CAPACITOR



CAPACITY: (10A+B)xC [PF]
TOLERANCE: D
RATED VOLTAGE: BODY COLOR
Pink: 25V
Green: 50V
CHARACTERISTICS: E

COIL



INDUCTANCE: (10A+B)xC [μH]

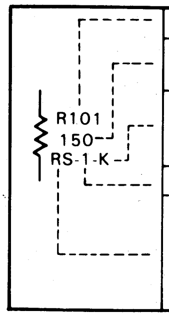
COLOR	A, B	C	D	E
Black	0	10^0	±20%	For temperature compensation
Brown	1	10^1		
Red	2	10^2		
Orange	3	10^3		
Yellow	4	10^4		
Green	5	10^5		
Blue	6			
Violet	7			
Grey	8		±30%	High dielectric constant type
White	9			For temperature compensation
Gold		10^{-1}	± 5%	
Silver		10^{-2}	±10%	High dielectric constant type

KAPITEL 5

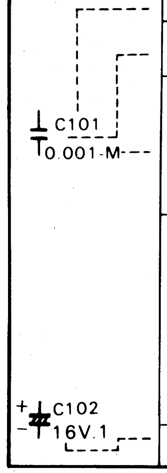
SCHALTPLAN/LEITERPLATTEN-DIAGRAMM

Hinweise:

1. Die aufgeführten Spannungswerte wurden bei auf Minimum gestelltem Lautstärkeregler und ohne Signal gemessen. Die in Klammern (   ) gestellten Werte gelten für den Aufnahmemodus.
2. Bezeichnung der Widerstände und Kondensatoren



Schaltkreis-Nr.	
Wert	Keine Angabe: Ohm M: 1000 kOhm
Toleranz	Keine Angabe: ± 5% K: ±10% M: ±20%
Wattzahl	Keine Angabe: 1/4W
Bauart	Keine Angabe: Kohlefilm RC: Verbundbauweise RW: Drahtspule RS: Metalloxidfilm RN: Fester Metallfilm

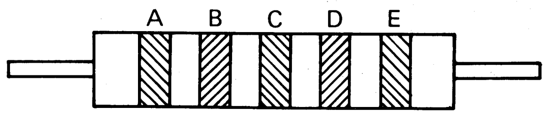


Schaltkreis-Nr.		
Wert	Keine Angabe: μF P : PF	
Toleranz	Keine Angabe: ±10% J : ± 5% M: ±20% Z : +80%, −20% D : ±0.5pF C : ±0.25pF	
Bauart	╪	Keramik
	+╪−	Electrolyt
	M╪	Mylar
	P╪	Polyester
	S╪	Styrol
Spannung	Keine Angabe: 50V	

3. Bei der Bestellung von Widerständen und Kondensatoren unbedingt Wert, Spannung und Bauart angeben.
4. Werden die mit "*" markierten Kondensatoren ausgetauscht, dann müssen due in der Stückliste spezifizierten Kondensatoren verwendet werden, da diese spezielle Temperatureigenschaften aufweisen.

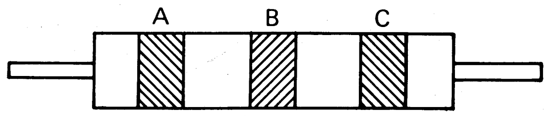
Ablesen der Kapazität und Induktivität der in Form von Widerständen ausgeführten Kondensatoren und Spulen

Kondensator



Kapazität: (10A+B)xC (pF)
Toleranz: D
Nennspannung: Farbe Rosa: 25V
Grün: 50V
Kennlinie: E

Spule



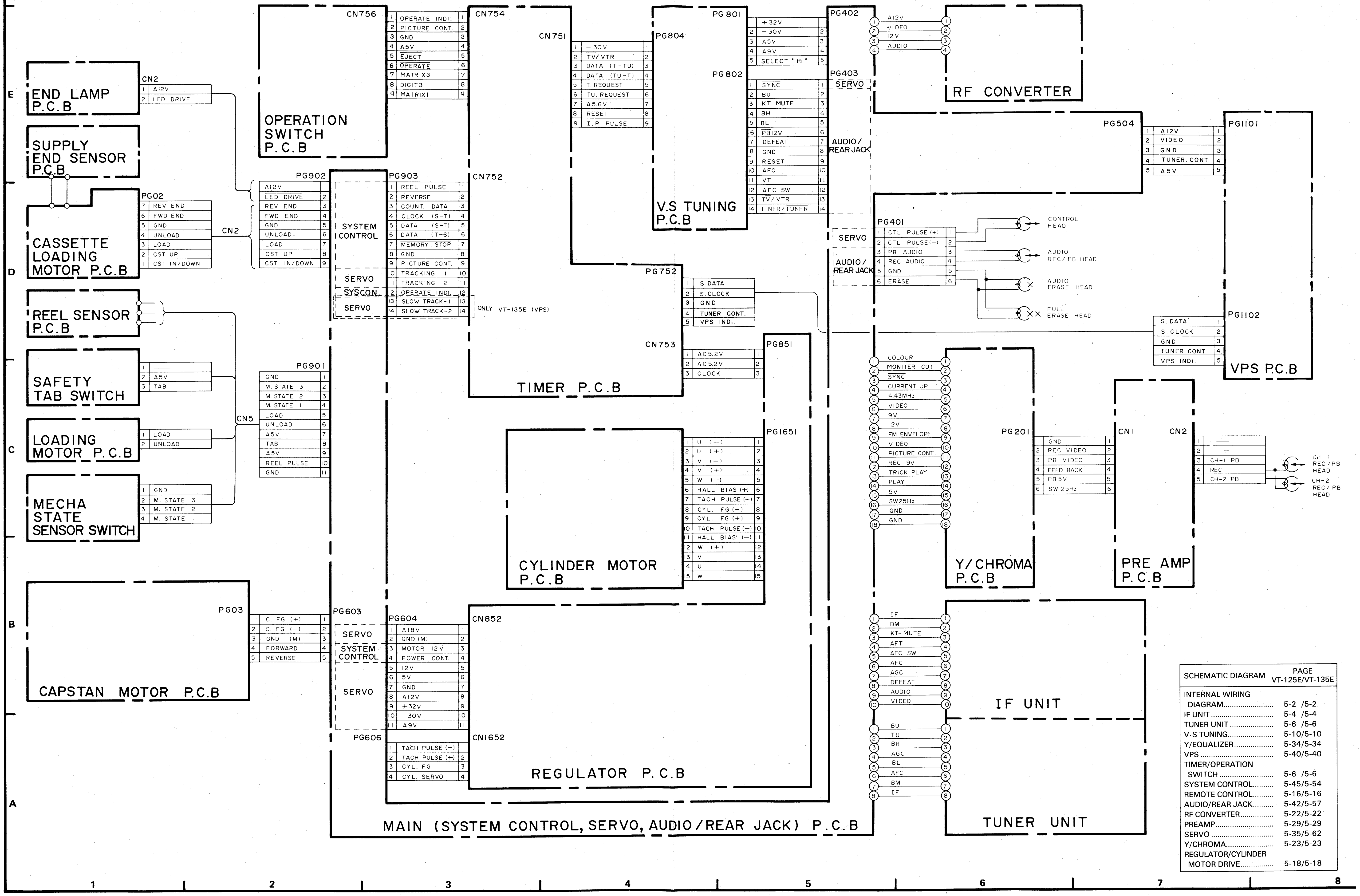
Induktivität: (10A+B)xC (μH)

Vorsichtsmaßnahmen bei der Verwendung von MOS-ICs

1. Die MOC-ICs werden für den Versand in schwarzem Schaumstoff verpackt. Dieser Schaumstoff ist elektrisch leitend und schließt die Leiter kurz, um Beschädigungen zu vermeiden. Die ICs während der Lagerung niemals aus der Schaumstoffverpackung entfernen. Die ICs nur unmittelbar vor der Verwendung auspacken und niemals auf Plastikteilen ablegen (statische Elektrizität!) bzw. in Styrol-Schaumstoff einsetzen.
2. Aufgrund von Leckagen am Lötkolben kann es während des Lötens zu Hochspannungen kommen; daher immer die Spitze des Lötkolbens erden und nur einen Niederspannungs-Lötkolben verwenden.
3. Statische Elektrizität von einigen tausend Volt kann sich aufgrund von Reibung im menschlichen Körper bzw. in aus Kunstfasern hergestellten Kleidern und Handschuhen aufbauen. Daher sollten auch die mit der Handhabung von ICs betrauten Personen geerdet werden.
4. Unbedingt die für die Reparaturen verwendeten Meßinstrumente wie Oszilloskop, Röhrenvoltmeter usw. erden.

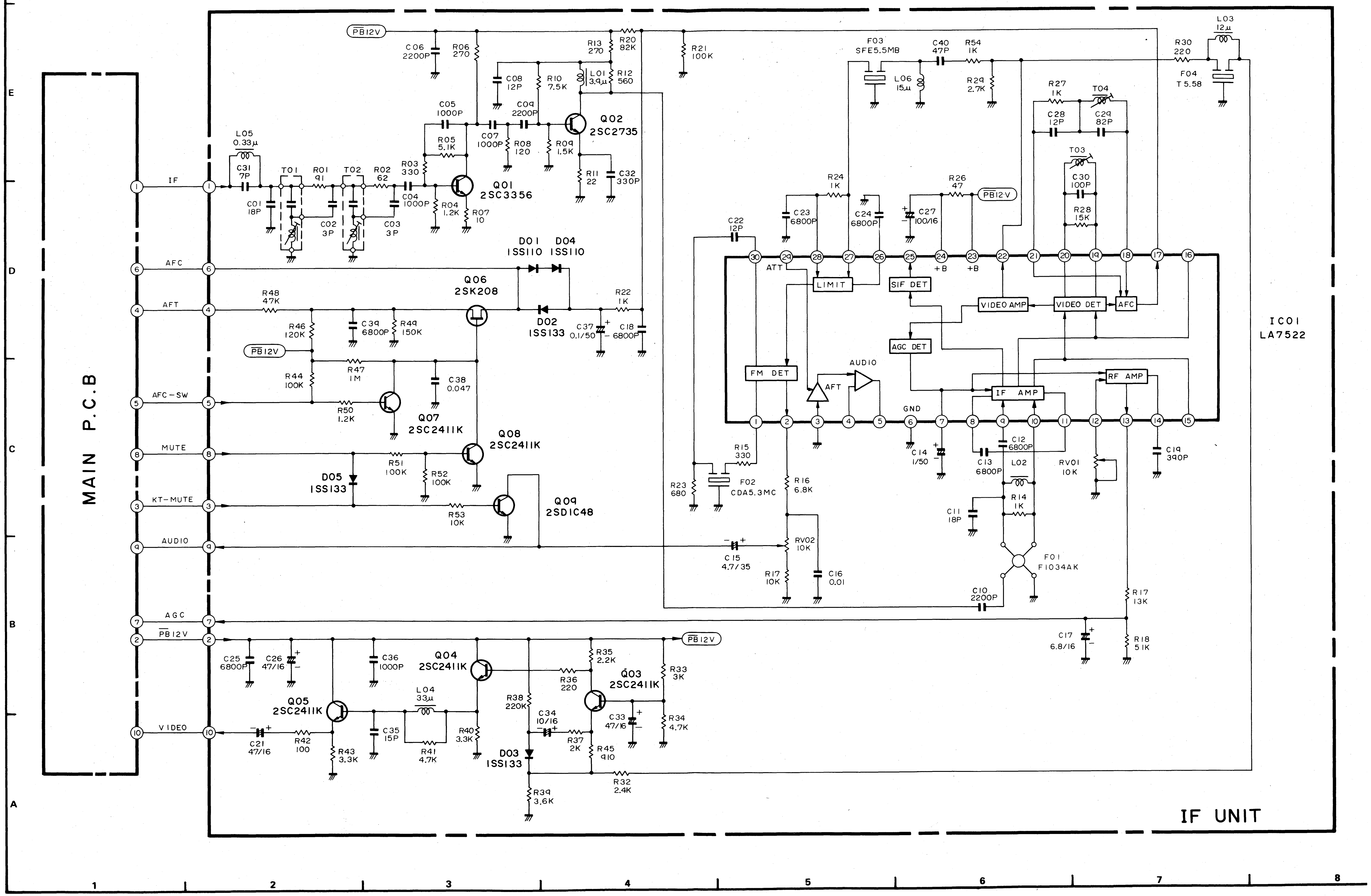
Farbe	A, B	C	D	E
Schwarz	0	10^0	±20%	Für Temperature-Kompensation
Braun	1	10^1		
Rot	2	10^2		
Orange	3	10^3		
Gelb	4	10^4		
Grün	5	10^5		
Blau	6			
Violett	7			
Grau	8		±30%	Bauart mit hoher Dielektrizitätskonstanter
Weiß	9			Für Temperatur-Kompensation
Gold		10^{-1}	± 5%	
Silber		10^{-2}	±10%	Bauart mit hoher Dielektrizitätskonstanter

INTERNAL WIRING DIAGRAM (KABELANSCHLUSSDIAGRAMM)

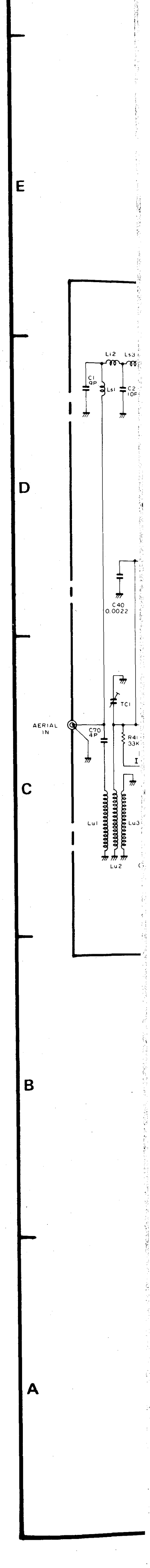

END LAMP P.C.B
CN2
1 A12V
2 LED DRIVE
SUPPLY END SENSOR P.C.B
CASSETTE LOADING MOTOR P.C.B
PG02
7 REV END
6 FWD END
5 GND
4 UNLOAD
3 LOAD
2 CST UP
1 CST IN/DOWN
CN2
REEL SENSOR P.C.B
SAFETY TAB SWITCH
1 —
2 A5V
3 TAB
LOADING MOTOR P.C.B
1 LOAD
2 UNLOAD
MECHA STATE SENSOR SWITCH
1 GND
2 M. STATE 3
3 M. STATE 2
4 M. STATE 1
CN5
CAPSTAN MOTOR P.C.B
PG03
1 C. FG (+)
2 C. FG (−)
3 GND (M)
4 FORWARD
5 REVERSE
OPERATION SWITCH P.C.B
CN756
1 OPERATE INDI.
2 PICTURE CONT.
3 GND
4 A5V
5 EJECT
6 OPERATE
7 MATRIX3
8 DIGIT3
9 MATRIX1
PG902
A12V
LED DRIVE
REV END
FWD END
GND
UNLOAD
LOAD
CST UP
CST IN/DOWN
PG901
GND
M. STATE 3
M. STATE 2
M. STATE 1
LOAD
UNLOAD
A5V
TAB
A5V
REEL PULSE
GND
SYSTEM CONTROL
SERVO
SYSCON
SERVO
PG903
1 REEL PULSE
2 REVERSE
3 COUNT. DATA
4 CLOCK (S-T)
5 DATA (S-T)
6 DATA (T-S)
7 MEMORY STOP
8 GND
9 PICTURE CONT.
10 TRACKING 1
11 TRACKING 2
12 OPERATE INDI.
13 SLOW TRACK-1
14 SLOW TRACK-2
ONLY VT-135E (VPS)
CN754
CN751
CN752
1 −30V
2 TV/VTR
3 DATA (T-TU)
4 DATA (TU-T)
5 T. REQUEST
6 TU. REQUEST
7 A5.6V
8 RESET
9 I.R PULSE
TIMER P.C.B
PG752
1 S. DATA
2 S. CLOCK
3 GND
4 TUNER CONT.
5 VPS INDI.
CN753
1 AC5.2V
2 AC5.2V
3 CLOCK
PG851
PG1651
1 U (−)
2 U (+)
3 V (−)
4 V (+)
5 W (−)
6 HALL BIAS (+)
7 TACH PULSE (+)
8 CYL. FG (−)
9 CYL. FG (+)
10 TACH PULSE (−)
11 HALL BIAS (−)
12 W (+)
13 V
14 U
15 W
CYLINDER MOTOR P.C.B
PG603
SERVO
SYSTEM CONTROL
SERVO
PG606
PG604
1 A18V
2 GND (M)
3 MOTOR 12V
4 POWER CONT.
5 12V
6 5V
7 GND
8 A12V
9 +32V
10 −30V
11 A9V
CN852
CN1652
1 TACH PULSE (−)
2 TACH PULSE (+)
3 CYL. FG
4 CYL. SERVO
REGULATOR P.C.B
MAIN (SYSTEM CONTROL, SERVO, AUDIO/REAR JACK) P.C.B
PG801
PG804
1 +32V
2 −30V
3 A5V
4 A9V
5 SELECT "Hi"
PG802
1 SYNC
2 BU
3 KT MUTE
4 BH
5 BL
6 PB12V
7 DEFEAT
8 GND
9 RESET
10 AFC
11 VT
12 AFC SW
13 TV/VTR
14 LINER/TUNER
V.S TUNING P.C.B
PG402
PG403
SERVO
AUDIO/REAR JACK
① A12V
② VIDEO
③ 12V
④ AUDIO
RF CONVERTER
PG504
1 A12V
2 VIDEO
3 GND
4 TUNER. CONT.
5 A5V
PG1101
PG401
SERVO
AUDIO/REAR JACK
1 CTL PULSE (+)
2 CTL PULSE (−)
3 PB AUDIO
4 REC AUDIO
5 GND
6 ERASE
CONTROL HEAD
AUDIO REC/PB HEAD
AUDIO ERASE HEAD
FULL ERASE HEAD
PG1102
1 S. DATA
2 S. CLOCK
3 GND
4 TUNER. CONT.
5 VPS INDI.
VPS P.C.B
① COLOUR MONITER CUT
② SYNC
③ CURRENT UP
④ 4.43MHz
⑤ VIDEO
⑥ 9V
⑦ 12V
⑧ FM ENVELOPE
⑨ VIDEO
⑩ PICTURE CONT
⑪ REC 9V
⑫ TRICK PLAY
⑬ PLAY
⑭ 5V
⑮ SW25Hz
⑯ GND
⑰ GND
Y/CHROMA P.C.B
PG201
1 GND
2 REC VIDEO
3 PB VIDEO
4 FEED BACK
5 PB 5V
6 SW 25Hz
CN1
CN2
1 —
2 —
3 CH-1 PB
4 REC
5 CH-2 PB
CH-1 REC/PB HEAD
CH-2 REC/PB HEAD
PRE AMP P.C.B
① IF
② BM
③ KT-MUTE
④ AFT
⑤ AFC SW
⑥ AFC
⑦ AGC
⑧ DEFEAT
⑨ AUDIO
⑩ VIDEO
IF UNIT
① BU
② TU
③ BH
④ AGC
⑤ BL
⑥ AFC
⑦ BM
⑧ IF
TUNER UNIT
E
D
C
B
A
1
2
3
4
5
6
7
8

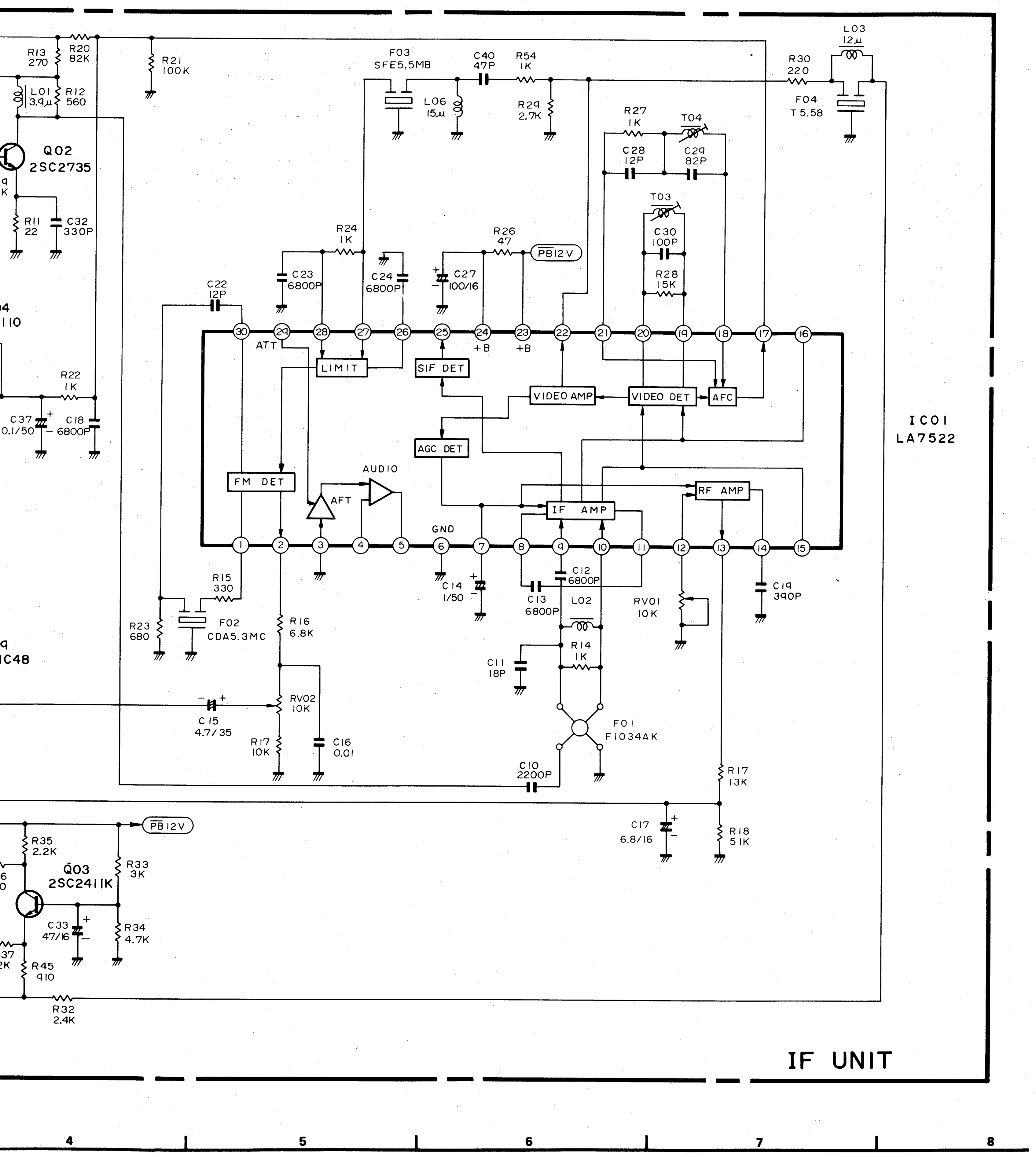
SCHEMATIC DIAGRAM	PAGE VT-125E/VT-135E
INTERNAL WIRING DIAGRAM	5-2 /5-2
IF UNIT	5-4 /5-4
TUNER UNIT	5-6 /5-6
V.S TUNING	5-10/5-10
Y/EQUALIZER	5-34/5-34
VPS	5-40/5-40
TIMER/OPERATION SWITCH	5-6 /5-6
SYSTEM CONTROL	5-45/5-54
REMOTE CONTROL	5-16/5-16
AUDIO/REAR JACK	5-42/5-57
RF CONVERTER	5-22/5-22
PREAMP	5-29/5-29
SERVO	5-35/5-62
Y/CHROMA	5-23/5-23
REGULATOR/CYLINDER MOTOR DRIVE	5-18/5-18

IF UNIT (ZF-EINHEIT)

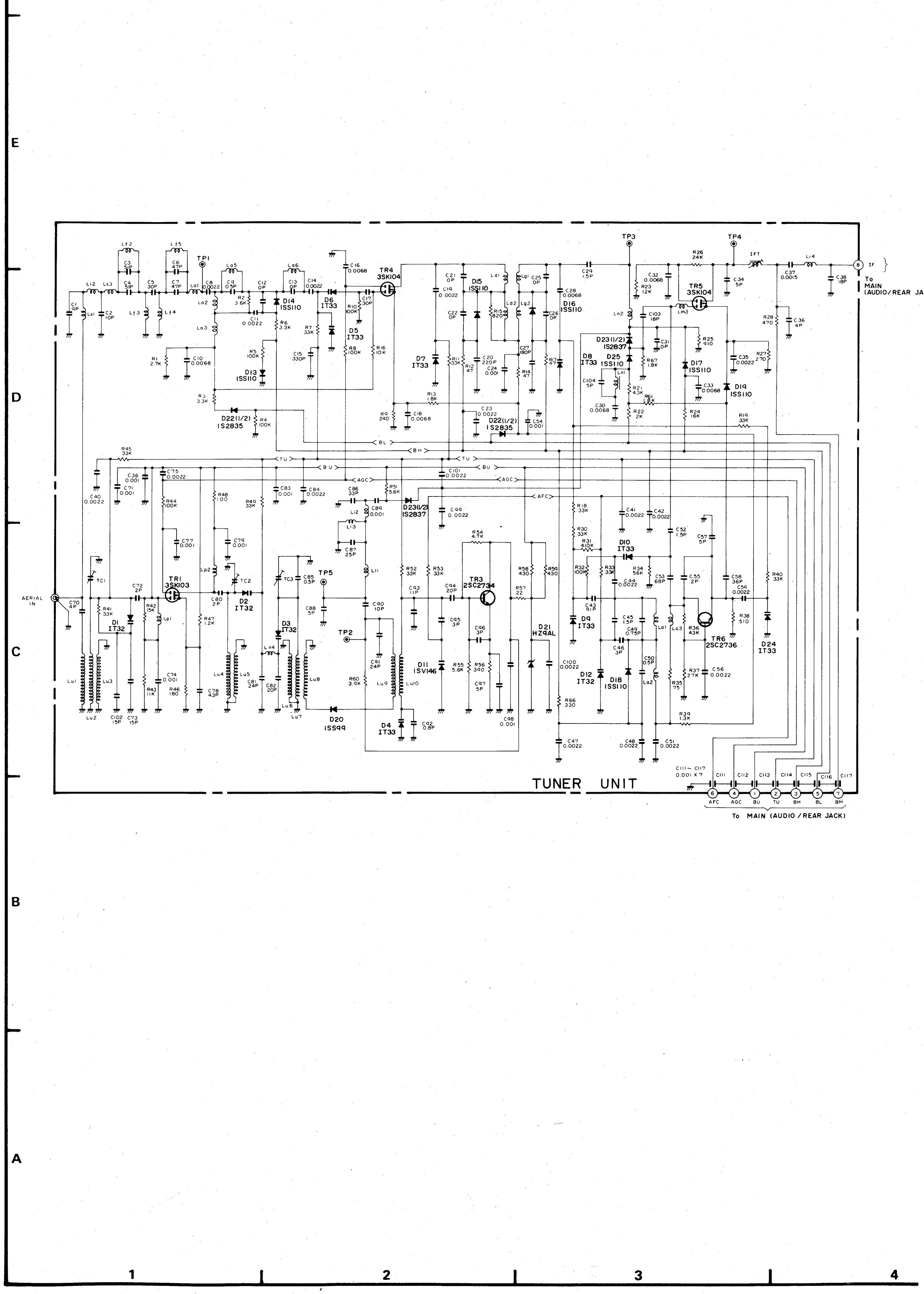

IF UNIT
MAIN P.C.B
IF
AFC
AFT
AFC-SW
MUTE
KT-MUTE
AUDIO
AGC
PB12V
VIDEO
L05 0.33μ
C31 7P
C01 18P
T01
R01 91
C02 3P
T02
R02 62
C03 3P
R03 330
C04 1000P
R04 1.2K
R07 10
Q01 2SC3356
C05 1000P
R05 5.1K
C06 2200P
R06 270
C07 1000P
R08 120
C08 12P
R10 7.5K
C09 2200P
R09 1.5K
Q02 2SC2735
R11 22
C32 330P
L01 3.9μ
R12 560
R13 270
R20 82K
R21 100K
D01 1SS110
D04 1SS110
Q06 2SK208
D02 1SS133
R22 1K
C37 0.1/50
C18 6800P
R48 47K
R46 120K
C39 6800P
R49 150K
R47 1M
C38 0.047
R44 100K
R50 1.2K
Q07 2SC2411K
Q08 2SC2411K
R51 100K
R52 100K
D05 1SS133
R53 10K
Q09 2SD1C48
C25 6800P
C26 47/16
C36 1000P
Q04 2SC2411K
Q05 2SC2411K
L04 33μ
C35 15P
R41 4.7K
R40 3.3K
R43 3.3K
C21 47/16
R42 100
R38 220K
C34 10/16
D03 1SS133
R39 3.6K
R36 220
R35 2.2K
Q03 2SC2411K
R37 2K
R45 910
C33 47/16
R33 3K
R34 4.7K
R32 2.4K
F03 SFE5.5MB
L06 15μ
C40 47P
R54 1K
R29 2.7K
R30 220
L03 12μ
F04 T5.58
R27 1K
T04
C28 12P
C29 82P
T03
C30 100P
R28 15K
R24 1K
R26 47
C23 6800P
C24 6800P
C27 100/16
C22 12P
ATT
+B
LIMIT
SIF DET
VIDEO AMP
VIDEO DET
AFC
AGC DET
FM DET
AUDIO
AFT
IF AMP
RF AMP
GND
IC01 LA7522
R23 680
F02 CDA5.3MC
R15 330
R16 6.8K
C14 1/50
C13 6800P
C12 6800P
L02
R14 1K
C11 18P
RV01 10K
C19 390P
F01 F1034AK
C15 4.7/35
RV02 10K
R17 10K
C16 0.01
C10 2200P
R17 13K
C17 6.8/16
R18 5.1K
A
B
C
D
E
1
2
3
4
5
6
7
8

TUNE

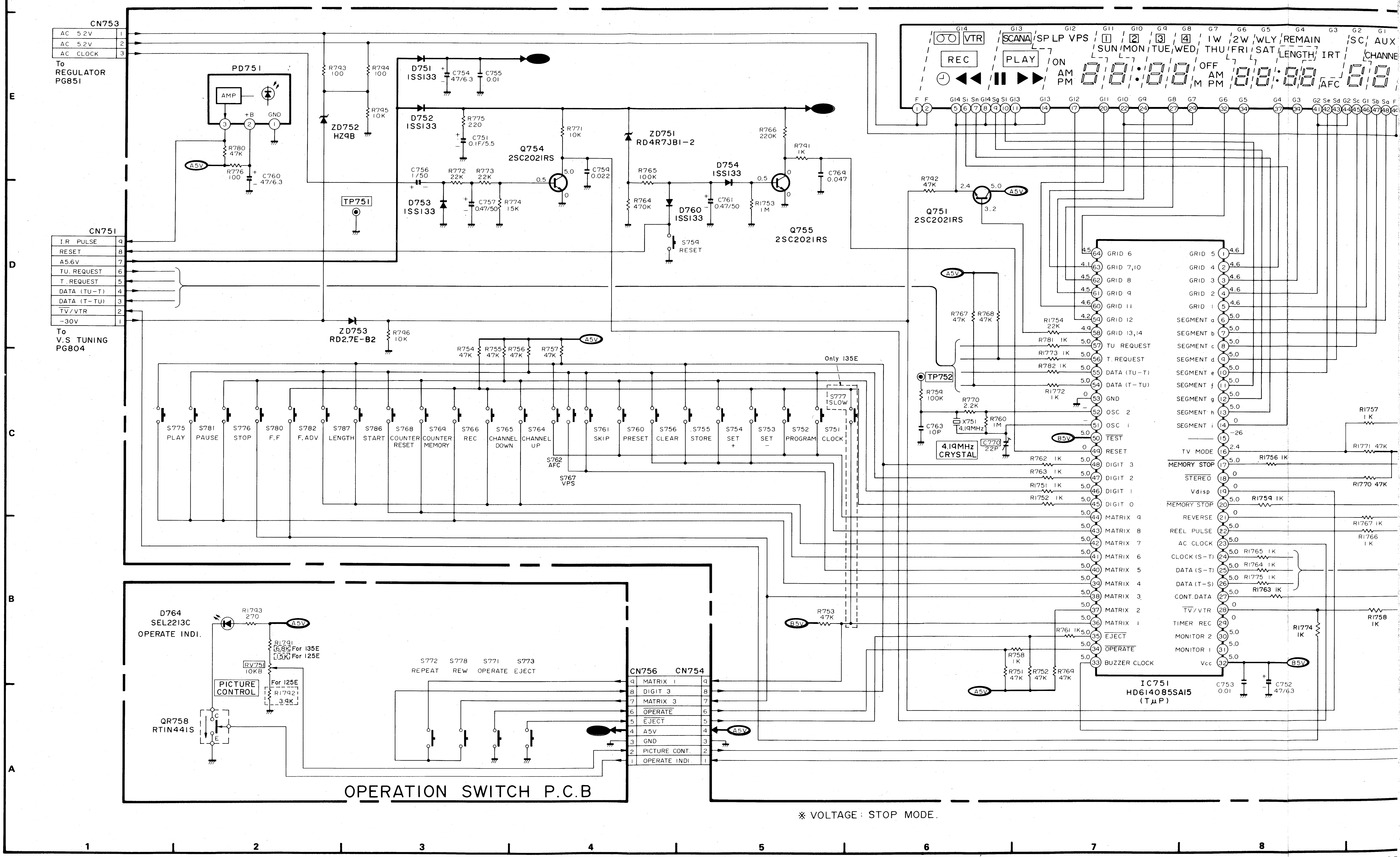



R13 270
R20 82K
R21 100K
L01 3.9μ
R12 560
Q02 2SC2735
R11 22
C32 330P
F03 SFE5.5MB
L06 15μ
C40 47P
R54 1K
R29 2.7K
R30 220
L03 12μ
F04 T5.58
R27 1K
T04
C28 12P
C29 82P
T03
C30 100P
R28 15K
R24 1K
R26 47
PB12V
C23 6800P
C24 6800P
C27 100/16
C22 12P
ATT
LIMIT
SIF DET
+B
VIDEO AMP
VIDEO DET
AFC
AGC DET
AUDIO
FM DET
AFT
GND
IF AMP
RF AMP
IC01 LA7522
R22 1K
C37 0.1/50
C18 6800P
R15 330
F02 CDA5.3MC
R23 680
R16 6.8K
C14 1/50
C13 6800P
C12 6800P
L02
RV01 10K
C19 390P
C11 18P
R14 1K
RV02 10K
C15 4.7/35
R17 10K
C16 0.01
F01 F1034AK
C10 2200P
R17 13K
R18 51K
C17 6.8/16
R35 2.2K
Q03 2SC2411K
R33 3K
C33 47/16
R34 4.7K
R45 910
R32 2.4K
IF UNIT
4
5
6
7
8

TUNER UNIT/(TUNER-EINHEIT)

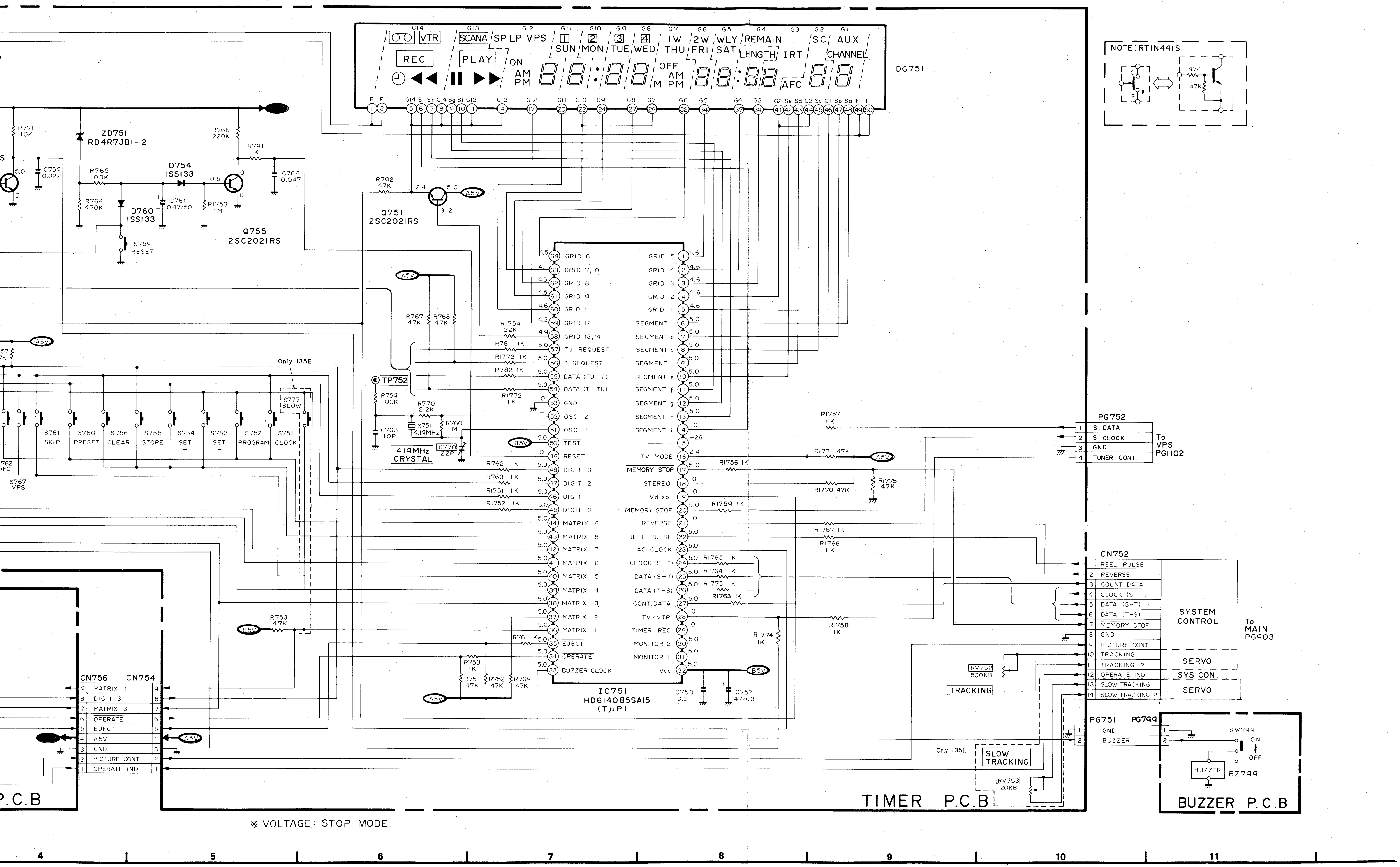

E
D
C
B
A
TP3
TP4
TP1
TP2
TP5
TR4 3SK104
TR5 3SK104
TR1 3SK103
TR3 2SC2734
TR6 2SC2736
AERIAL IN
To MAIN (AUDIO/REAR JACK)
IF
AFC
AGC
BU
TU
BH
BL
BM
TUNER UNIT
To MAIN (AUDIO/REAR JACK)
1
2
3
4

TIMER/OPERATION SWITCH (TIMER/FUNKTIONSSCHALTER)

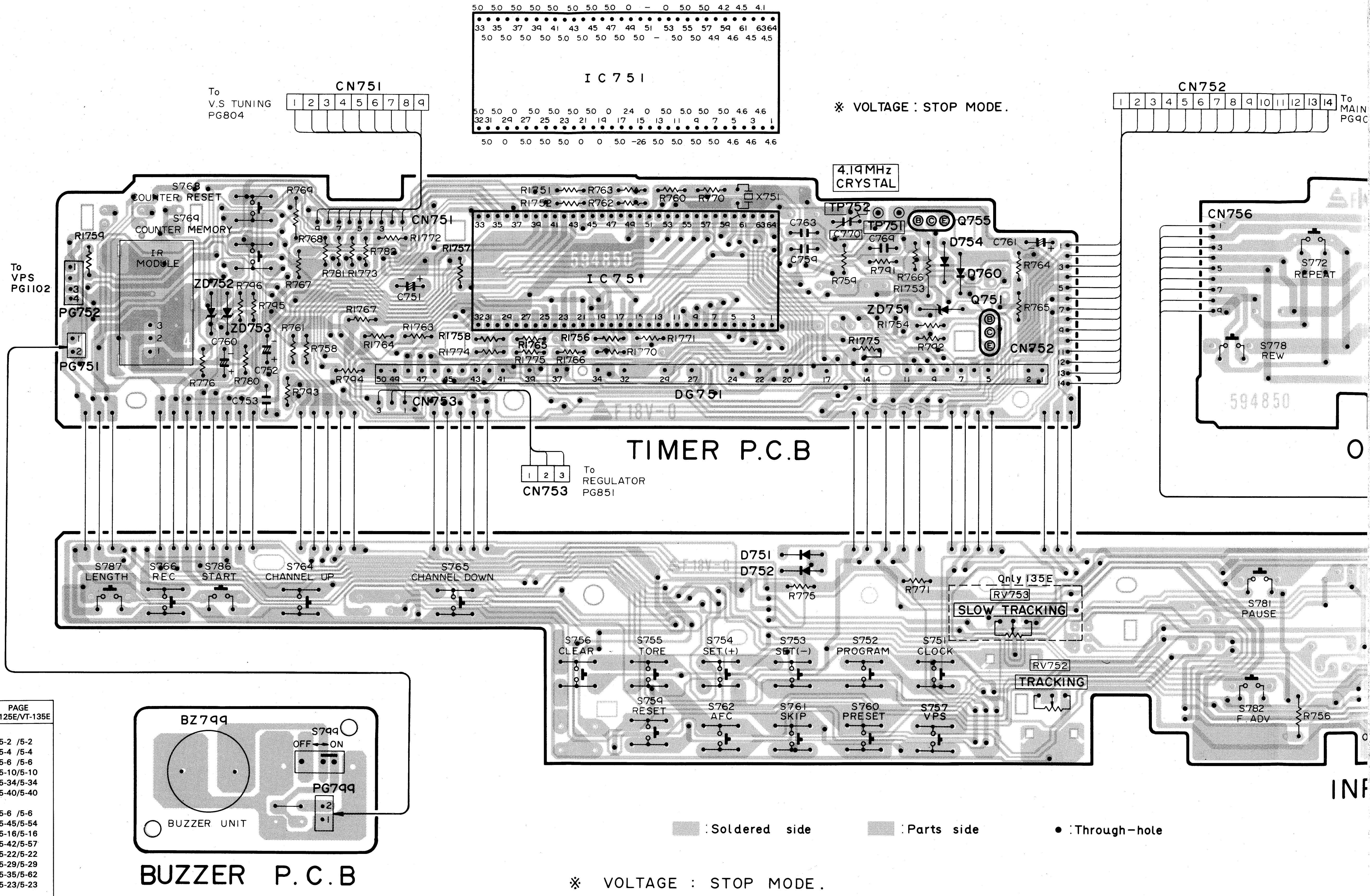

CN753
AC 5.2V
AC 5.2V
AC CLOCK
To REGULATOR PG851
PD751
AMP
+B
GND
R780 47K
R776 100
C760 47/6.3
A5V
R793 100
R794 100
R795 10K
ZD752 HZ9B
D751 1SS133
C754 47/6.3
C755 0.01
D752 1SS133
R775 220
C751 0.1F/5.5
Q754 2SC2021RS
R771 10K
C759 0.022
C756 1/50
R772 22K
R773 22K
D753 1SS133
C757 0.47/50
R774 15K
TP751
ZD751 RD4R7JB1-2
R765 100K
R764 470K
D760 1SS133
D754 1SS133
C761 0.47/50
R1753 1M
R766 220K
R791 1K
C769 0.047
Q755 2SC2021RS
S759 RESET
R792 47K
Q751 2SC2021RS
CN751
I.R PULSE
RESET
A5.6V
TU. REQUEST
T. REQUEST
DATA (TU-T)
DATA (T-TU)
TV/VTR
-30V
To V.S TUNING PG804
ZD753 RD2.7E-B2
R796 10K
R754 47K
R755 47K
R756 47K
R757 47K
Only 135E
S775 PLAY
S781 PAUSE
S776 STOP
S780 F.F
S782 F.ADV
S787 LENGTH
S786 START
S768 COUNTER RESET
S769 COUNTER MEMORY
S766 REC
S765 CHANNEL DOWN
S764 CHANNEL UP
S762 AFC
S767 VPS
S761 SKIP
S760 PRESET
S756 CLEAR
S755 STORE
S754 SET +
S753 SET −
S752 PROGRAM
S751 CLOCK
S777 SLOW
R767 47K
R768 47K
TP752
R759 100K
R770 2.2K
X751 4.19MHz
R760 1M
C763 10P
4.19MHz CRYSTAL
C770 22P
B5V
REC
PLAY
VTR
SCANA
SP LP VPS
SUN MON TUE WED THU FRI SAT
ON AM PM
OFF AM PM
1W 2W WLY REMAIN LENGTH IRT
SC AUX CHANNE
AFC
R1754 22K
R781 1K
R1773 1K
R782 1K
R1772 1K
R762 1K
R763 1K
R1751 1K
R1752 1K
R1761 1K
R758 1K
R751 47K
R752 47K
R769 47K
R753 47K
GRID 6
GRID 7,10
GRID 8
GRID 9
GRID 11
GRID 12
GRID 13,14
TU REQUEST
T. REQUEST
DATA (TU-T)
DATA (T-TU)
GND
OSC 2
OSC 1
TEST
RESET
DIGIT 3
DIGIT 2
DIGIT 1
DIGIT 0
MATRIX 9
MATRIX 8
MATRIX 7
MATRIX 6
MATRIX 5
MATRIX 4
MATRIX 3
MATRIX 2
MATRIX 1
EJECT
OPERATE
BUZZER CLOCK
GRID 5
GRID 4
GRID 3
GRID 2
GRID 1
SEGMENT a
SEGMENT b
SEGMENT c
SEGMENT d
SEGMENT e
SEGMENT f
SEGMENT g
SEGMENT h
SEGMENT i
TV MODE
MEMORY STOP
STEREO
Vdisp
MEMORY STOP
REVERSE
REEL PULSE
AC CLOCK
CLOCK (S-T)
DATA (S-T)
DATA (T-S)
CONT.DATA
TV/VTR
TIMER REC
MONITOR 2
MONITOR 1
Vcc
IC751 HD614085SA15 (TμP)
C753 0.01
C752 47/63
R1757 1K
R1771 47K
R1756 1K
R1770 47K
R1759 1K
R1767 1K
R1766 1K
R1765 1K
R1764 1K
R1775 1K
R1763 1K
R1774 1K
R1758 1K
D764 SEL2213C OPERATE INDI.
R1793 270
R1791 6.8K For 135E 15K For 125E
RV751 10KB
PICTURE CONTROL
For 125E R1792 3.9K
QR758 RTIN441S
S772 REPEAT
S778 REW
S771 OPERATE
S773 EJECT
CN756
CN754
MATRIX 1
DIGIT 3
MATRIX 3
OPERATE
EJECT
A5V
GND
PICTURE CONT.
OPERATE INDI.
OPERATION SWITCH P.C.B

※ VOLTAGE : STOP MODE.

LTER)

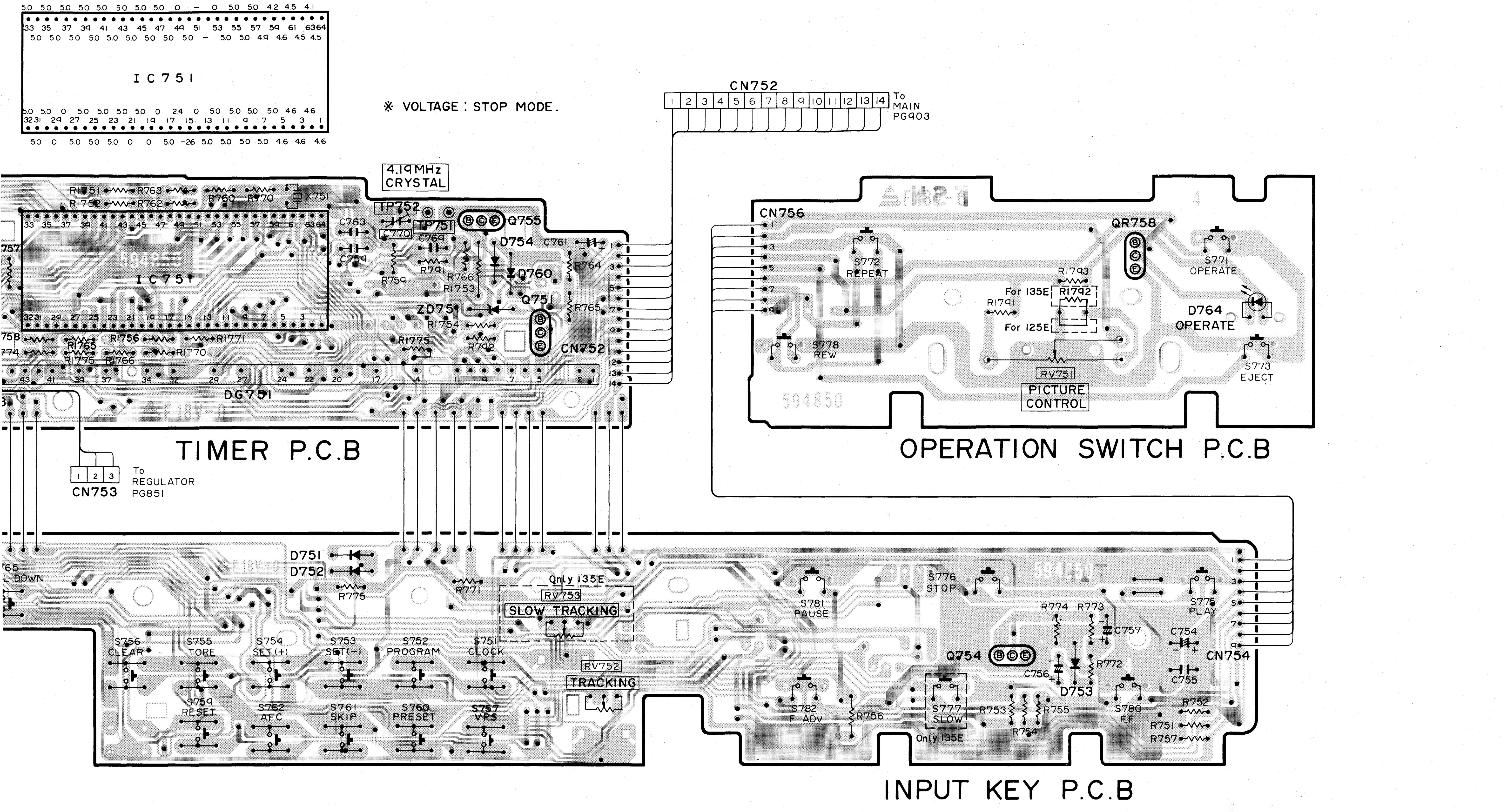

DG751
G14 VTR G13 SCANA SP LP VPS G12 G11 1 G10 2 G9 3 G8 4 G7 1W G6 2W G5 WLY G4 REMAIN G3 G2 SC G1 AUX
SUN MON TUE WED THU FRI SAT LENGTH IRT CHANNEL
REC PLAY ON AM PM OFF AM M PM AFC
NOTE: RTIN441S
47K 47K
ZD751 RD4R7JB1-2
R771 10K
C759 0.022
R766 220K
R791 1K
C769 0.047
R765 100K
D754 1SS133
R764 470K
D760 1SS133
C761 0.47/50
R1753 1M
Q755 2SC2021RS
S759 RESET
R792 47K
Q751 2SC2021RS
A5V
B5V
R767 47K
R768 47K
R1754 22K
R781 1K
R1773 1K
R782 1K
R1772 1K
TP752
R759 100K
R770 2.2K
X751 4.19MHz
R760 1M
C763 10P
C770 22P
4.19MHz CRYSTAL
R762 1K
R763 1K
R1751 1K
R1752 1K
Only 135E
S777 SLOW
S761 SKIP
S760 PRESET
S756 CLEAR
S755 STORE
S754 SET +
S753 SET −
S752 PROGRAM
S751 CLOCK
S767 VPS
R753 47K
R761 1K
R758 1K
R751 47K
R752 47K
R769 47K
IC751 HD614085SA15 (TμP)
GRID 6, GRID 7,10, GRID 8, GRID 9, GRID 11, GRID 12, GRID 13,14, TU REQUEST, T. REQUEST, DATA (TU-T), DATA (T-TU), GND, OSC 2, OSC 1, TEST, RESET, DIGIT 3, DIGIT 2, DIGIT 1, DIGIT 0, MATRIX 9, MATRIX 8, MATRIX 7, MATRIX 6, MATRIX 5, MATRIX 4, MATRIX 3, MATRIX 2, MATRIX 1, EJECT, OPERATE, BUZZER CLOCK
GRID 5, GRID 4, GRID 3, GRID 2, GRID 1, SEGMENT a, SEGMENT b, SEGMENT c, SEGMENT d, SEGMENT e, SEGMENT f, SEGMENT g, SEGMENT h, SEGMENT i, TV MODE, MEMORY STOP, STEREO, Vdisp, MEMORY STOP, REVERSE, REEL PULSE, AC CLOCK, CLOCK (S-T), DATA (S-T), DATA (T-S), CONT. DATA, TV/VTR, TIMER REC, MONITOR 2, MONITOR 1, Vcc
C753 0.01
C752 47/63
R1757 1K
R1771 47K
R1756 1K
R1775 47K
R1770 47K
R1759 1K
R1767 1K
R1766 1K
R1765 1K
R1764 1K
R1775 1K
R1763 1K
R1774 1K
R1758 1K
PG752: 1 S. DATA, 2 S. CLOCK, 3 GND, 4 TUNER CONT.
To VPS PG1102
CN752: 1 REEL PULSE, 2 REVERSE, 3 COUNT. DATA, 4 CLOCK (S-T), 5 DATA (S-T), 6 DATA (T-S), 7 MEMORY STOP, 8 GND, 9 PICTURE CONT., 10 TRACKING 1, 11 TRACKING 2, 12 OPERATE INDI., 13 SLOW TRACKING 1, 14 SLOW TRACKING 2
SYSTEM CONTROL
SERVO
SYS.CON
SERVO
To MAIN PG903
RV752 500KB
TRACKING
CN756 CN754: 9 MATRIX 1, 8 DIGIT 3, 7 MATRIX 3, 6 OPERATE, 5 EJECT, 4 A5V, 3 GND, 2 PICTURE CONT., 1 OPERATE INDI
P.C.B
PG751 PG799: 1 GND, 2 BUZZER
SW799 ON OFF
BUZZER BZ799
Only 135E
SLOW TRACKING
RV753 20KB
TIMER P.C.B
BUZZER P.C.B
4 5 6 7 8 9 10 11

※ VOLTAGE : STOP MODE.


IC751
※ VOLTAGE : STOP MODE.
To V.S TUNING PG804
CN751
CN752
To MAIN PG9C
4.19MHz CRYSTAL
X751
TP752
TP751
Q755
D754
D760
Q751
ZD751
C761
C763
C770
C769
C759
R764
R765
R766
R1753
R1754
R759
R791
R792
R1775
R1751
R1752
R763
R762
R760
R770
R1771
R1770
R1756
R1765
R1775
R1766
R1758
R1774
R1763
R1764
R1767
R1757
R1772
R1773
R781
R782
R768
R769
R767
R761
R758
R793
R794
R796
R795
R776
R780
R1759
S768 COUNTER RESET
S769 COUNTER MEMORY
IR MODULE
ZD752
ZD753
C760
C751
C752
C753
To VPS PG1102
PG752
PG751
CN753
DG751
TIMER P.C.B
To REGULATOR PG851
CN756
S772 REPEAT
S778 REW
S787 LENGTH
S766 REC
S786 START
S764 CHANNEL UP
S765 CHANNEL DOWN
D751
D752
R775
R771
Only 135E
RV753
SLOW TRACKING
RV752
TRACKING
S781 PAUSE
S756 CLEAR
S755 TORE
S754 SET(+)
S753 SET(−)
S752 PROGRAM
S751 CLOCK
S759 RESET
S762 AFC
S761 SKIP
S760 PRESET
S757 VPS
S782 F.ADV
R756
BZ799
S799
OFF ON
PG799
BUZZER UNIT
BUZZER P.C.B
▨ :Soldered side
▨ :Parts side
● :Through-hole

※ VOLTAGE : STOP MODE.

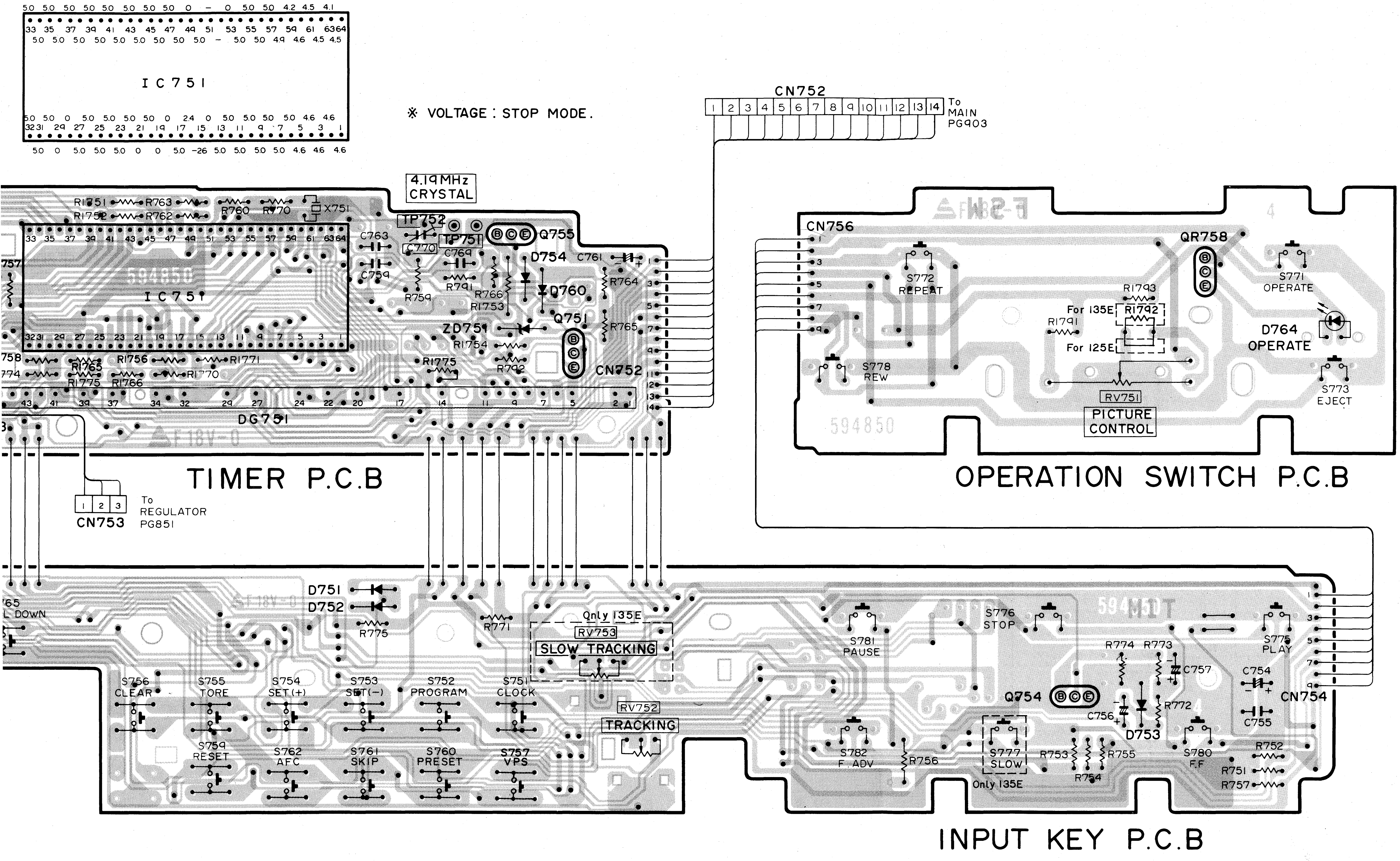
SCHEMATIC DIAGRAM	PAGE VT-125E/VT-135E
INTERNAL WIRING DIAGRAM	5-2 /5-2
IF UNIT	5-4 /5-4
TUNER UNIT	5-6 /5-6
V·S TUNING	5-10/5-10
Y/EQUALIZER	5-34/5-34
VPS	5-40/5-40
TIMER/OPERATION SWITCH	5-6 /5-6
SYSTEM CONTROL	5-45/5-54
REMOTE CONTROL	5-16/5-16
AUDIO/REAR JACK	5-42/5-57
RF CONVERTER	5-22/5-22
PREAMP	5-29/5-29
SERVO	5-35/5-62
Y/CHROMA	5-23/5-23
REGULATOR/CYLINDER MOTOR DRIVE	5-18/5-18


IC751
50 50 50 50 50 50 50 50 0 – 0 50 50 4.2 4.5 4.1
33 35 37 39 41 43 45 47 49 51 53 55 57 59 61 6364
50 50 50 50 50 50 50 50 50 – 50 50 4.9 4.6 4.5 4.5
50 50 0 50 50 50 50 0 24 0 50 50 50 50 4.6 4.6
3231 29 27 25 23 21 19 17 15 13 11 9 7 5 3 1
50 0 50 50 50 0 0 50 –26 50 50 50 50 4.6 4.6 4.6
CN752
1 2 3 4 5 6 7 8 9 10 11 12 13 14
To MAIN PG903
4.19MHz CRYSTAL
R1751 R763 R1752 R762 R760 R770 X751
TP752 TP751 C770 Q755 C763 C769 D754 C761 C759 R791 R759 R766 R1753 D760 R764 R765 Q751 ZD751 R1754 R1775 R792 CN752
R1765 R1775 R1756 R1766 R1771 R1770
DG751
TIMER P.C.B
CN753
To REGULATOR PG851
CN756
S772 REPEAT
QR758
S771 OPERATE
R1793 For 135E R1792 R1791 For 125E
D764 OPERATE
S778 REW
RV751 PICTURE CONTROL
S773 EJECT
OPERATION SWITCH P.C.B
D751 D752 R775 R771
Only 135E RV753 SLOW TRACKING
S756 CLEAR S755 TORE S754 SET(+) S753 SET(–) S752 PROGRAM S751 CLOCK
S759 RESET S762 AFC S761 SKIP S760 PRESET S757 VPS
RV752 TRACKING
S781 PAUSE S776 STOP S775 PLAY
R774 R773 C757 C754 CN754
Q754 C756 D753 R772 C755
S782 F.ADV R756 S777 SLOW Only 135E R753 R754 R755 S780 F.F R752 R751 R757
INPUT KEY P.C.B

※ VOLTAGE : STOP MODE.

▨ :Soldered side ▨ :Parts side • :Through-hole

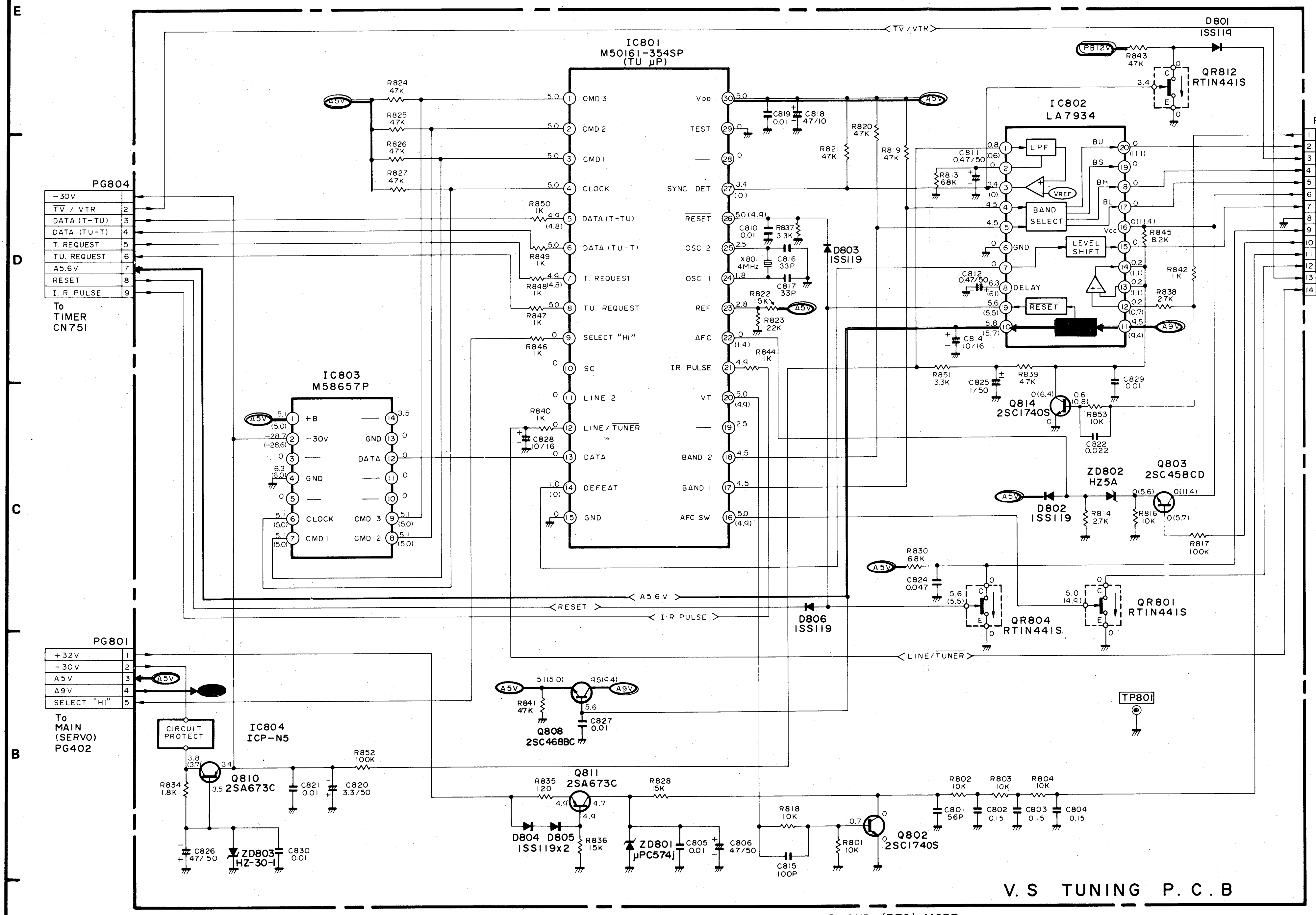
※ VOLTAGE : STOP MODE.


IC751
50 50 50 50 50 50 50 50 0 – 0 50 50 42 45 41
33 35 37 39 41 43 45 47 49 51 53 55 57 59 61 63 64
50 50 50 50 50 50 50 50 50 – 50 50 49 46 45 45
50 50 0 50 50 50 50 0 24 0 50 50 50 50 46 46
32 31 29 27 25 23 21 19 17 15 13 11 9 7 5 3 1
50 0 50 50 50 0 0 50 –26 50 50 50 50 46 46 46
※ VOLTAGE : STOP MODE.
CN752
To MAIN PG903
4.19MHz CRYSTAL
X751
TP752
TP751
C770
C763
C769
C759
C761
Q755
D754
D760
Q751
ZD751
R1751
R1752
R763
R762
R760
R770
R759
R791
R766
R1753
R764
R765
R1754
R1775
R792
R1756
R1771
R1765
R1775
R1766
R1770
IC751
CN752
DG751
TIMER P.C.B
To REGULATOR PG851
CN753
CN756
QR758
S772 REPEAT
S771 OPERATE
R1793
For 135E
R1792
R1791
For 125E
D764 OPERATE
S778 REW
RV751
PICTURE CONTROL
S773 EJECT
OPERATION SWITCH P.C.B
D751
D752
R775
R771
Only 135E
RV753
SLOW TRACKING
RV752
TRACKING
S756 CLEAR
S755 TORE
S754 SET(+)
S753 SET(−)
S752 PROGRAM
S751 CLOCK
S759 RESET
S762 AFC
S761 SKIP
S760 PRESET
S757 VPS
S781 PAUSE
S776 STOP
S775 PLAY
R774
R773
C757
C754
CN754
Q754
C756
D753
R772
C755
S782 F. ADV
R756
S777 SLOW
Only 135E
R753
R754
R755
S780 F.F
R752
R751
R757
INPUT KEY P.C.B

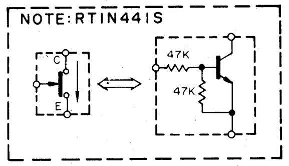
▒ :Soldered side ░ :Parts side ● :Through-hole

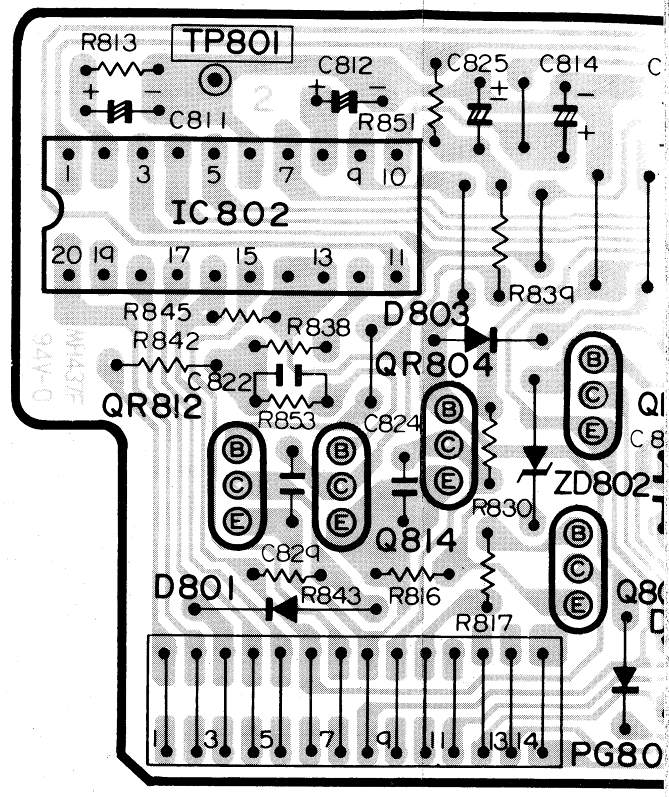
※ VOLTAGE : STOP MODE.

V·S TUNING(SPANNUNGSSYNTHESIZER-TUNER)

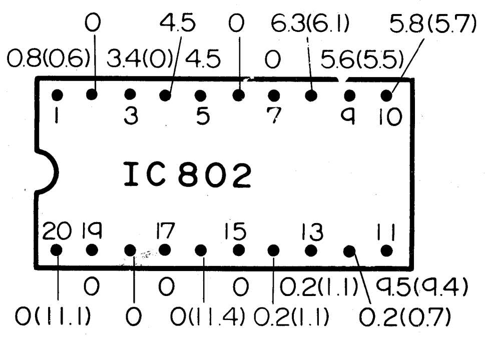

IC801
M50161-354SP
(TU µP)
CMD 3
CMD 2
CMD 1
CLOCK
DATA (T-TU)
DATA (TU-T)
T. REQUEST
TU. REQUEST
SELECT "Hi"
SC
LINE 2
LINE/TUNER
DATA
DEFEAT
GND
VDD
TEST
SYNC DET
RESET
OSC 2
OSC 1
REF
AFC
IR PULSE
VT
BAND 2
BAND 1
AFC SW
IC802
LA7934
LPF
VREF
BAND SELECT
LEVEL SHIFT
RESET
DELAY
GND
BU
BS
BH
BL
Vcc
IC803
M58657P
+B
-30V
GND
DATA
CLOCK
CMD 1
CMD 3
CMD 2
IC804
ICP-N5
CIRCUIT PROTECT
PG804
-30V
TV / VTR
DATA (T-TU)
DATA (TU-T)
T. REQUEST
TU. REQUEST
A5.6V
RESET
I. R PULSE
To TIMER CN751
PG801
+32V
-30V
A5V
A9V
SELECT "Hi"
To MAIN (SERVO) PG402
PG802
SYNC
BU
KT MUTE
BH
BL
PB12V
DEFEAT
GND
RESET
AFC
VT
AFC SW
TV/VTR
LINE/TUNER
SERVO
AUDIO/ REAR JACK
To MAIN PG403
D801 1SS119
QR812 RTIN441S
D803 1SS119
X801 4MHz
Q814 2SC1740S
ZD802 HZ5A
D802 1SS119
Q803 2SC458CD
QR804 RTIN441S
QR801 RTIN441S
D806 1SS119
Q808 2SC468BC
Q810 2SA673C
ZD803 HZ-30-1
Q811 2SA673C
D804 D805 1SS119x2
ZD801 µPC574J
Q802 2SC1740S
TP801
A5V
A9V
PB12V
TV / VTR
A5.6V
RESET
I·R PULSE
LINE/TUNER
V. S TUNING P. C. B
E
D
C
B
A
1
2
3
4
5
6
7
8

※ ONE VOLTAGE: PB OR REC MODE, TWO VOLTAGES: PB AND (REC) MODE.

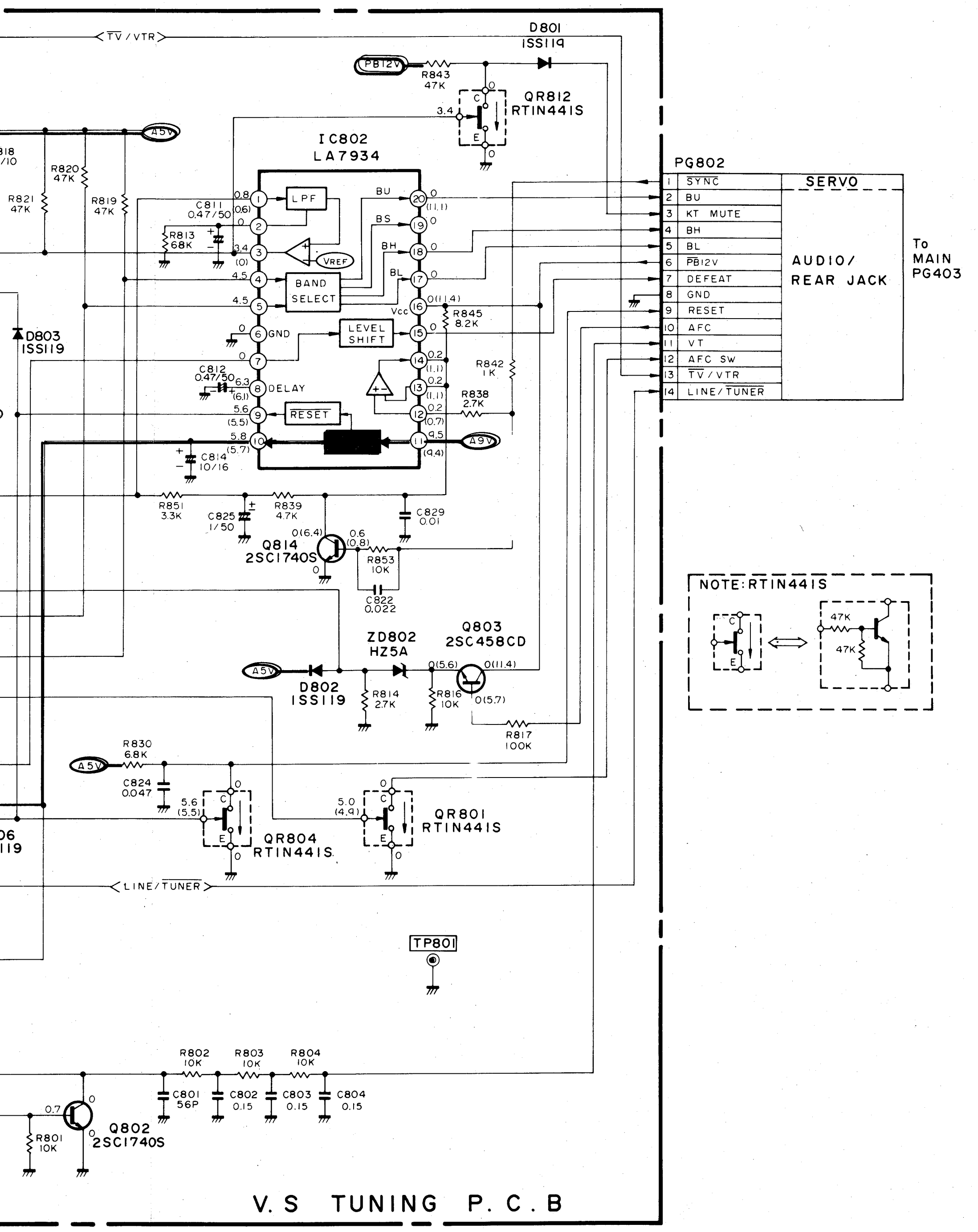

NOTE: RTIN441S
47K
47K


R813
TP801
C812
C825
C814
C811
R851
IC802
R845
R842
R838
D803
QR804
R839
QR812
C822
R853
C824
ZD802
R830
C829
Q814
D801
R843
R816
R817
PG80
B
C
E

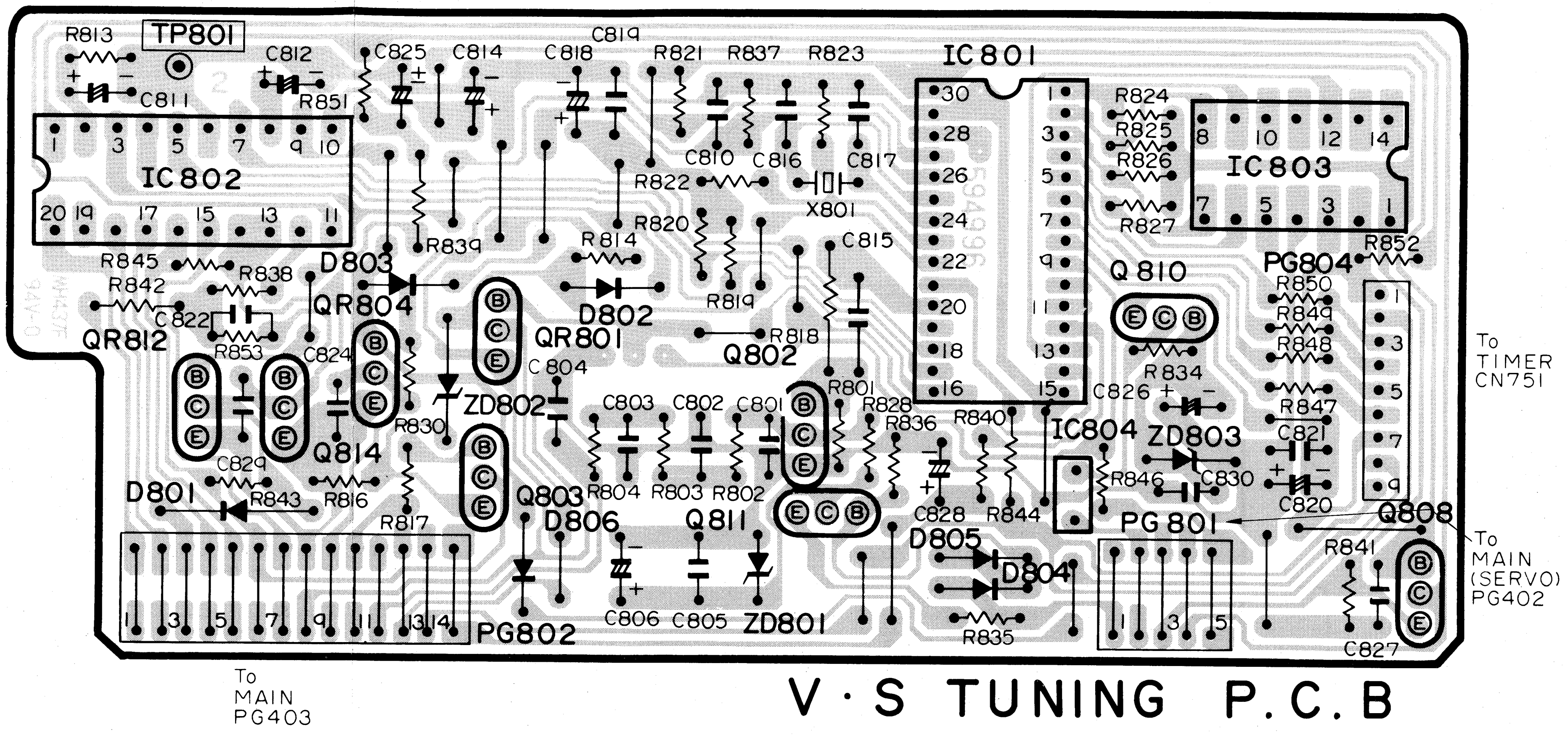
To MAIN PG403


0
4.5
0
6.3(6.1)
5.8(5.7)
0.8(0.6)
3.4(0)
4.5
0
5.6(5.5)
IC802
0
0
0
0.2(1.1)
9.5(9.4)
0(11.1)
0
0(11.4)
0.2(1.1)
0.2(0.7)

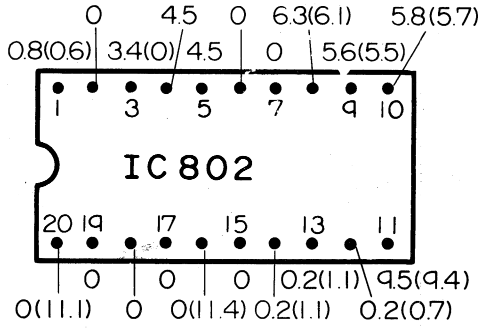
※ ONE VOLTAGE : PB OR RE
TWO VOLTAGES : PB AND (RE

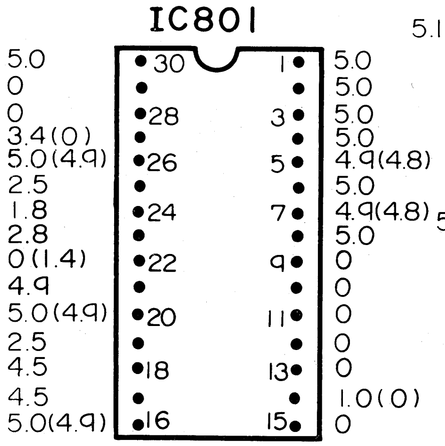

TV/VTR
D801
1SS119
PB12V
R843 47K
QR812 RTIN441S
IC802 LA7934
LPF
BAND SELECT
VREF
LEVEL SHIFT
DELAY
RESET
GND
Vcc
BU
BS
BH
BL
R845 8.2K
R842 1K
R838 2.7K
C811 0.47/50
R813 68K
C812 0.47/50
C814 10/16
R851 3.3K
C825 1/50
R839 47K
C829 0.01
Q814 2SC1740S
R853 10K
C822 0.022
ZD802 HZ5A
Q803 2SC458CD
D802 1SS119
R814 27K
R816 10K
R817 100K
R830 6.8K
C824 0.047
QR804 RTIN441S
QR801 RTIN441S
LINE/TUNER
TP801
R802 10K
R803 10K
R804 10K
C801 56P
C802 0.15
C803 0.15
C804 0.15
Q802 2SC1740S
R801 10K
R820 47K
R821 47K
R819 47K
D803 1SS119
A5V
PG802
1 SYNC
2 BU
3 KT MUTE
4 BH
5 BL
6 PB12V
7 DEFEAT
8 GND
9 RESET
10 AFC
11 VT
12 AFC SW
13 TV/VTR
14 LINE/TUNER
SERVO
AUDIO/REAR JACK
To MAIN PG403
NOTE:RTIN441S
47K
47K
V. S TUNING P. C. B

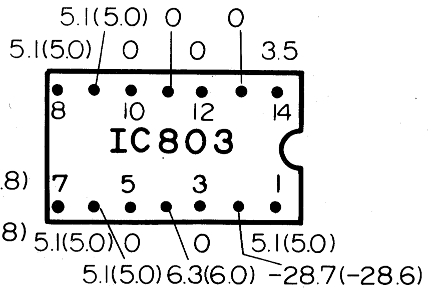
PB AND (REC) MODE.


R813
TP801
C812
C811
R851
C825
C814
C818
C819
R821
R837
R823
IC801
IC802
IC803
R824
R825
R826
R827
C810
C816
C817
R822
X801
R814
R820
C815
R852
PG804
R839
R845
R842
R838
D803
QR804
QR812
C822
R853
C824
D802
QR801
R819
R818
Q802
Q810
R850
R849
R848
R834
R847
C826
C804
ZD802
C803
C802
C801
R801
R828
R836
R840
IC804
ZD803
C821
R830
Q814
C829
R843
R816
R817
D801
Q803
R804
R803
R802
D806
Q811
C828
R844
R846
C830
C820
PG801
Q808
D805
D804
R841
C806
C805
ZD801
R835
C827
PG802
To TIMER CN751
To MAIN (SERVO) PG402
To MAIN PG403

V · S TUNING P. C. B


IC802
0
4.5
0
6.3(6.1)
5.8(5.7)
0.8(0.6)
3.4(0)
4.5
0
5.6(5.5)
0
0
0
0.2(1.1)
9.5(9.4)
0(11.1)
0
0(11.4)
0.2(1.1)
0.2(0.7)

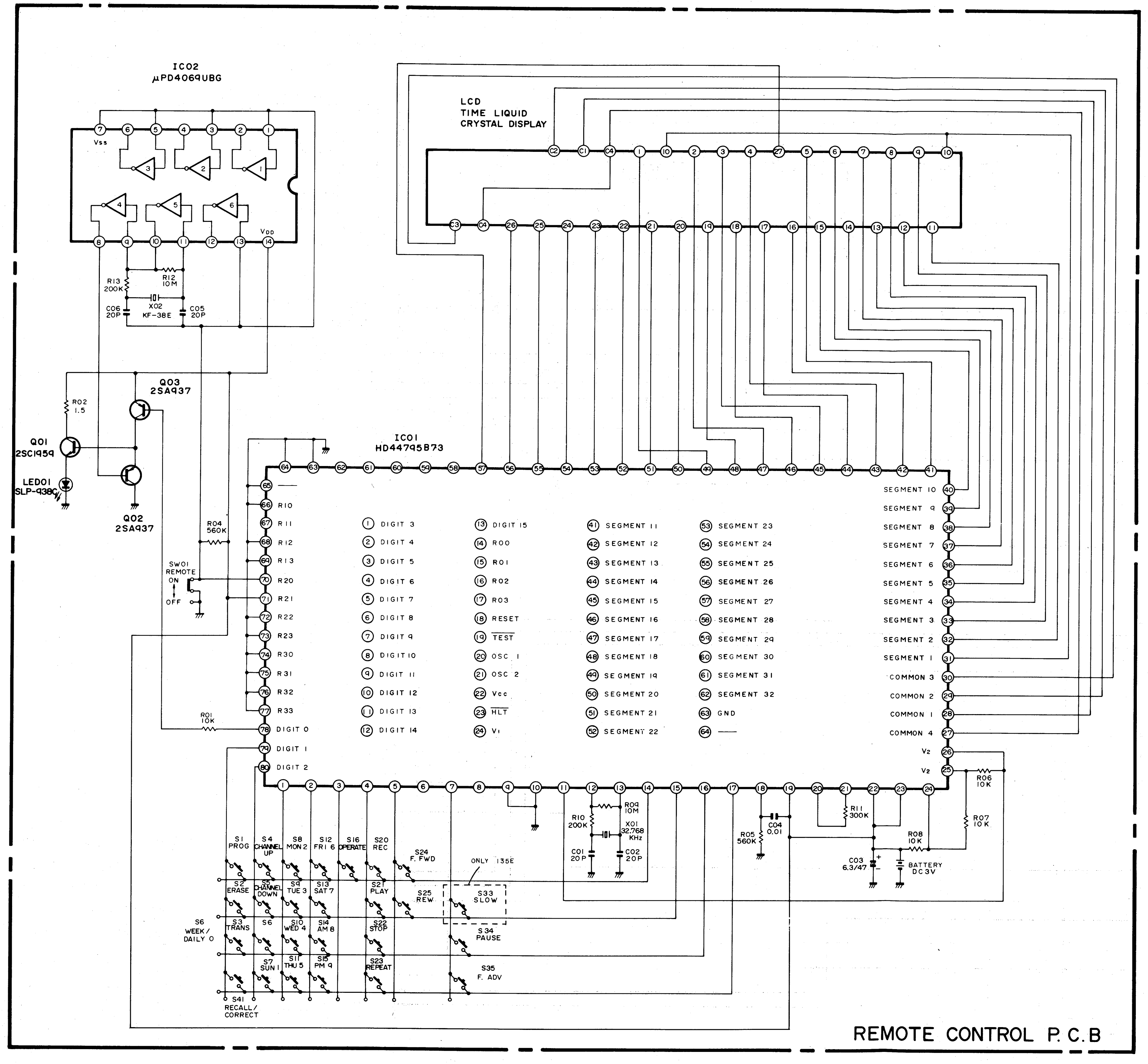

IC801
5.0
0
0
3.4(0)
5.0(4.9)
2.5
1.8
2.8
0(1.4)
4.9
5.0(4.9)
2.5
4.5
4.5
5.0(4.9)
5.0
5.0
5.0
5.0
4.9(4.8)
5.0
4.9(4.8)
5.0
0
0
0
0
0
1.0(0)
0

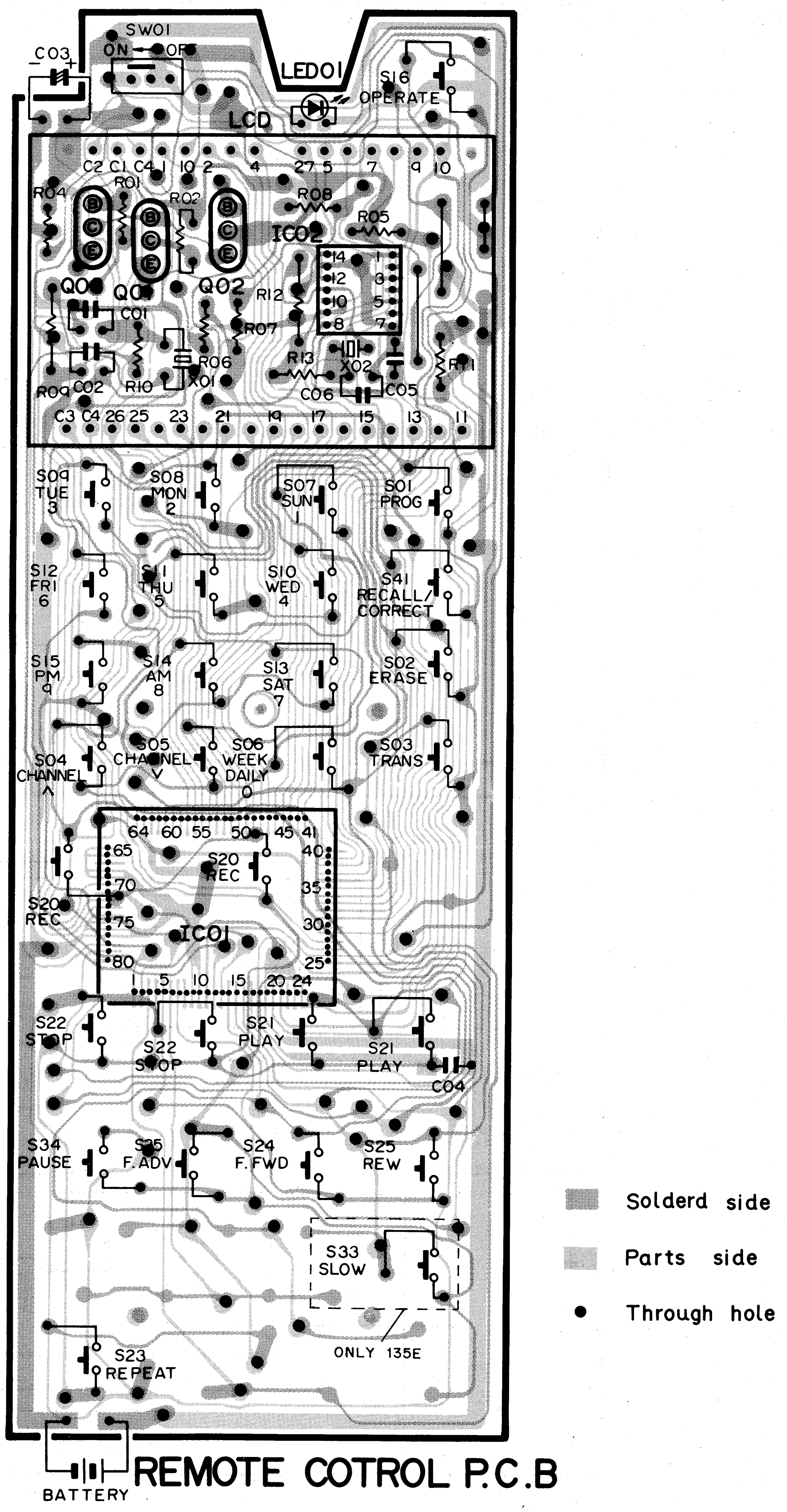

IC803
5.1(5.0)
0
0
5.1(5.0)
0
0
3.5
5.1(5.0)
0
5.1(5.0)
5.1(5.0)
6.3(6.0)
-28.7(-28.6)

※ ONE VOLTAGE : PB OR REC MODE,
TWO VOLTAGES : PB AND (REC) MODE.

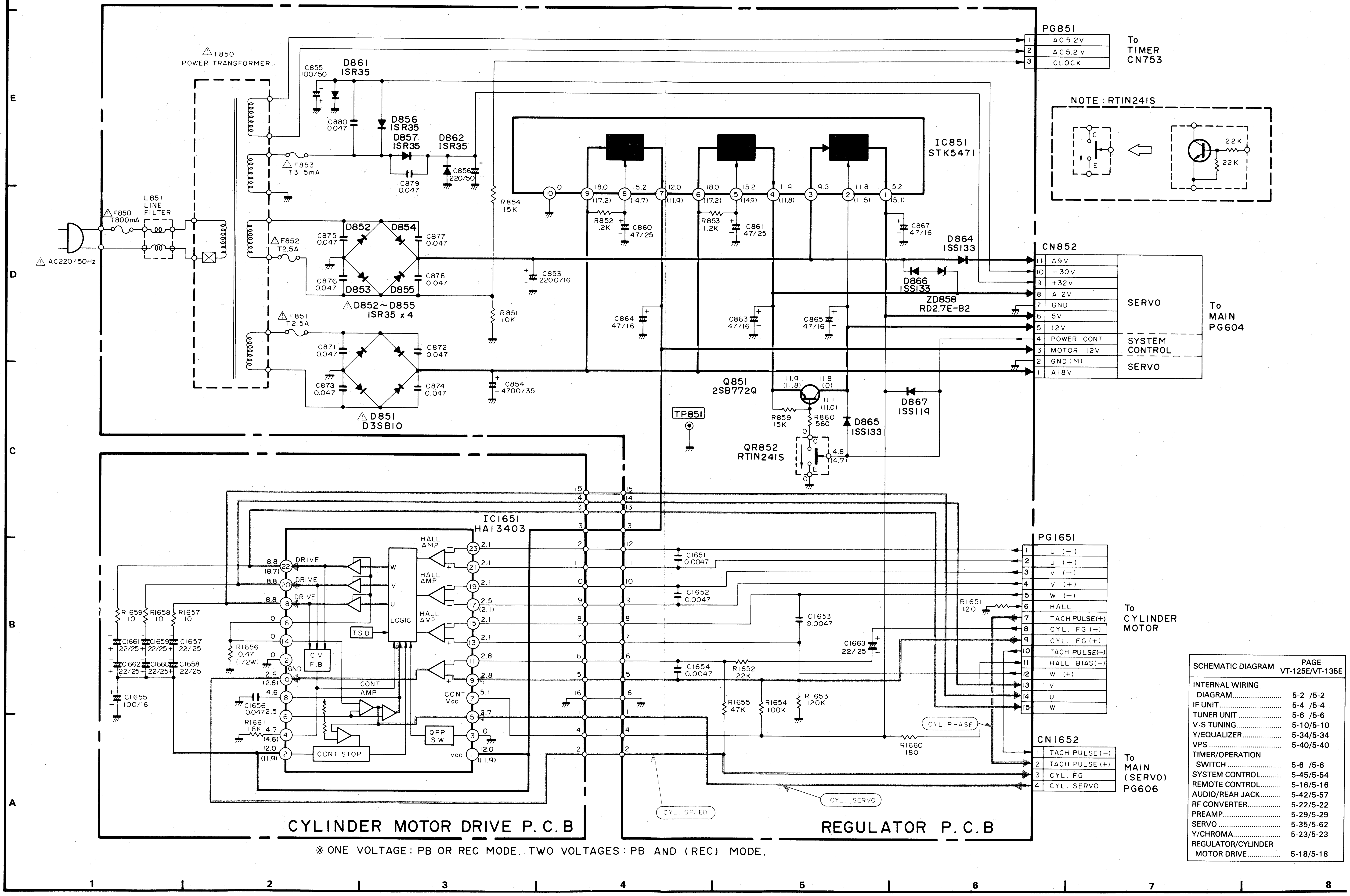
SCHEMATIC DIAGRAM	PAGE VT-125E/VT-135E
INTERNAL WIRING DIAGRAM	5-2 /5-2
IF UNIT	5-4 /5-4
TUNER UNIT	5-6 /5-6
V-S TUNING	5-10/5-10
Y/EQUALIZER	5-34/5-34
VPS	5-40/5-40
TIMER/OPERATION SWITCH	5-6 /5-6
SYSTEM CONTROL	5-45/5-54
REMOTE CONTROL	5-16/5-16
AUDIO/REAR JACK	5-42/5-57
RF CONVERTER	5-22/5-22
PREAMP	5-29/5-29
SERVO	5-35/5-62
Y/CHROMA	5-23/5-23
REGULATOR/CYLINDER MOTOR DRIVE	5-18/5-18

REMOTE CONTROL (FERNBEDIENUNG)


IC02
µPD4069UBG
Vss
VDD
R13 200K
R12 10M
X02 KF-38E
C06 20P
C05 20P
Q03 2SA937
R02 1.5
Q01 2SC1959
LED01 SLP-938C
Q02 2SA937
R04 560K
SW01 REMOTE ON OFF
R01 10K
LCD
TIME LIQUID
CRYSTAL DISPLAY
IC01
HD44795B73
① DIGIT 3
② DIGIT 4
③ DIGIT 5
④ DIGIT 6
⑤ DIGIT 7
⑥ DIGIT 8
⑦ DIGIT 9
⑧ DIGIT 10
⑨ DIGIT 11
⑩ DIGIT 12
⑪ DIGIT 13
⑫ DIGIT 14
⑬ DIGIT 15
⑭ R00
⑮ R01
⑯ R02
⑰ R03
⑱ RESET
⑲ TEST
⑳ OSC 1
㉑ OSC 2
㉒ Vcc
㉓ HLT
㉔ V1
㊶ SEGMENT 11
㊷ SEGMENT 12
㊸ SEGMENT 13
㊹ SEGMENT 14
㊺ SEGMENT 15
㊻ SEGMENT 16
㊼ SEGMENT 17
㊽ SEGMENT 18
㊾ SEGMENT 19
㊿ SEGMENT 20
(51) SEGMENT 21
(52) SEGMENT 22
(53) SEGMENT 23
(54) SEGMENT 24
(55) SEGMENT 25
(56) SEGMENT 26
(57) SEGMENT 27
(58) SEGMENT 28
(59) SEGMENT 29
(60) SEGMENT 30
(61) SEGMENT 31
(62) SEGMENT 32
(63) GND
(64) —
SEGMENT 10
SEGMENT 9
SEGMENT 8
SEGMENT 7
SEGMENT 6
SEGMENT 5
SEGMENT 4
SEGMENT 3
SEGMENT 2
SEGMENT 1
COMMON 3
COMMON 2
COMMON 1
COMMON 4
V2
V2
R10
R11
R12
R13
R20
R21
R22
R23
R30
R31
R32
R33
DIGIT 0
DIGIT 1
DIGIT 2
R10 200K
R09 10M
X01 32.768 KHz
C01 20P
C02 20P
R05 560K
C04 0.01
R11 300K
R08 10K
C03 6.3/47
BATTERY DC 3V
R06 10K
R07 10K
S1 PROG
S4 CHANNEL UP
S8 MON 2
S12 FRI 6
S16 OPERATE
S20 REC
S24 F. FWD
ONLY 135E
S2 ERASE
S5 CHANNEL DOWN
S9 TUE 3
S13 SAT 7
S21 PLAY
S25 REW
S33 SLOW
S6 WEEK/DAILY 0
S3 TRANS
S6
S10 WED 4
S14 AM 8
S22 STOP
S34 PAUSE
S7 SUN 1
S11 THU 5
S15 PM 9
S23 REPEAT
S35 F. ADV
S41 RECALL/CORRECT
REMOTE CONTROL P.C.B

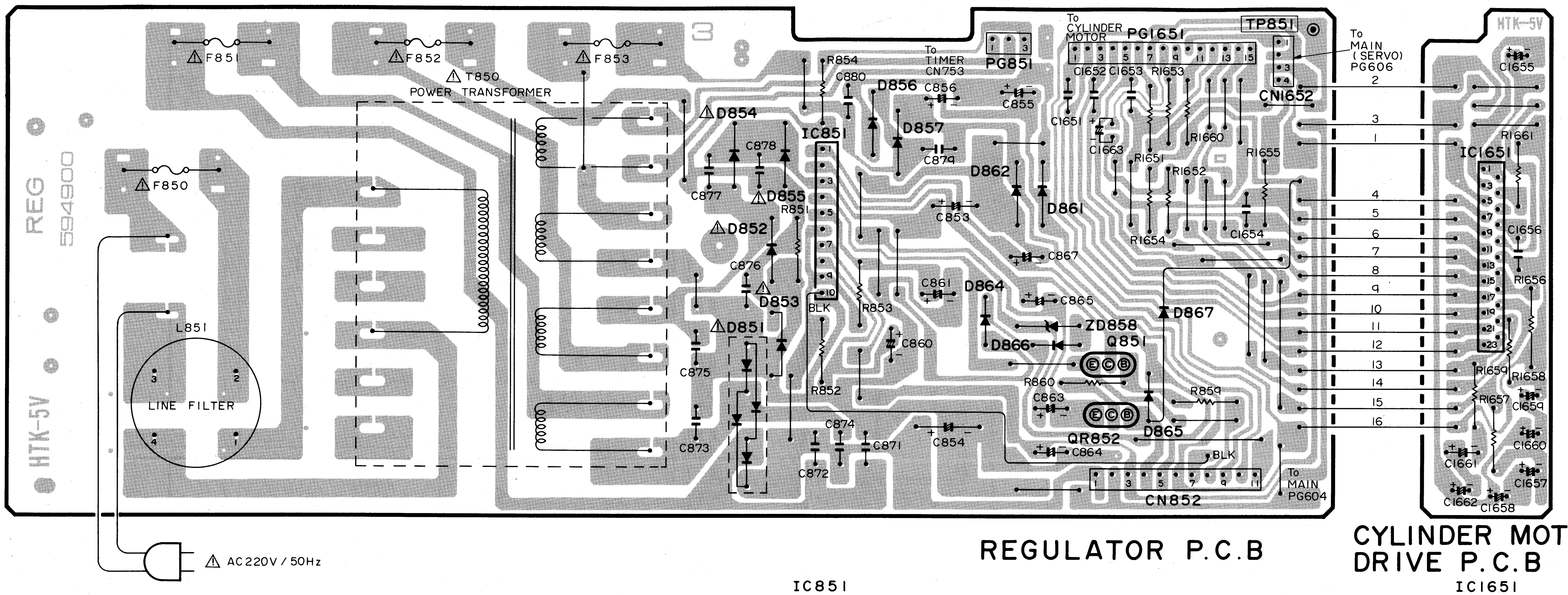

SW01
ON OFF
C03
LED01
S16 OPERATE
LCD
IC02
Q01
Q03
Q02
S09 TUE 3
S08 MON 2
S07 SUN 1
S01 PROG
S12 FRI 6
S11 THU 5
S10 WED 4
S41 RECALL/CORRECT
S15 PM 9
S14 AM 8
S13 SAT 7
S02 ERASE
S04 CHANNEL ^
S05 CHANNEL v
S06 WEEK DAILY 0
S03 TRANS
S20 REC
IC01
S22 STOP
S21 PLAY
C04
S34 PAUSE
S35 F. ADV
S24 F.FWD
S25 REW
S33 SLOW
ONLY 135E
S23 REPEAT
BATTERY
REMOTE COTROL P.C.B
Solderd side
Parts side
Through hole

REGULATOR/CYLINDER MOTOR DEIVE (KOPFTROMMELMOTER-TREIBER)


⚠T850
POWER TRANSFORMER
⚠F850
T800mA
L851
LINE
FILTER
⚠AC220/50Hz
⚠F853
T315mA
⚠F852
T2.5A
⚠F851
T2.5A
C855
100/50
D861
ISR35
C880
0.047
D856
ISR35
D857
ISR35
D862
ISR35
C879
0.047
C856
220/50
D852
D854
D853
D855
C875
0.047
C877
0.047
C876
0.047
C878
0.047
⚠D852~D855
ISR35 x 4
C871
0.047
C872
0.047
C873
0.047
C874
0.047
⚠D851
D3SB10
C853
2200/16
C854
4700/35
R854
15K
R851
10K
IC851
STK5471
R852
1.2K
C860
47/25
R853
1.2K
C861
47/25
C867
47/16
C864
47/16
C863
47/16
C865
47/16
D864
ISS133
D866
ISS133
ZD858
RD2.7E-B2
Q851
2SB772Q
R859
15K
R860
560
D865
ISS133
D867
ISS119
QR852
RTIN241S
TP851
NOTE : RTIN241S
22K
22K
PG851
AC5.2V
AC5.2V
CLOCK
To
TIMER
CN753
CN852
A9V
-30V
+32V
A12V
GND
5V
12V
POWER CONT
MOTOR 12V
GND(M)
A18V
SERVO
SYSTEM
CONTROL
SERVO
To
MAIN
PG604
IC1651
HA13403
HALL
AMP
DRIVE
LOGIC
T.S.D
C V
F.B
CONT
AMP
CONT
Vcc
QPP
SW
CONT. STOP
Vcc
R1659
10
R1658
10
R1657
10
C1661
22/25
C1659
22/25
C1657
22/25
C1662
22/25
C1660
22/25
C1658
22/25
C1655
100/16
R1656
0.47
(1/2W)
C1656
0.047
R1661
1.8K
C1651
0.0047
C1652
0.0047
C1653
0.0047
C1654
0.0047
C1663
22/25
R1651
120
R1652
22K
R1655
47K
R1654
100K
R1653
120K
R1660
180
PG1651
U (-)
U (+)
V (-)
V (+)
W (-)
HALL
TACH PULSE(+)
CYL. FG (-)
CYL. FG (+)
TACH PULSE(-)
HALL BIAS(-)
W (+)
V
U
W
To
CYLINDER
MOTOR
CN1652
TACH PULSE(-)
TACH PULSE(+)
CYL. FG
CYL. SERVO
To
MAIN
(SERVO)
PG606
CYL. PHASE
CYL. SERVO
CYL. SPEED
CYLINDER MOTOR DRIVE P. C. B
REGULATOR P. C. B
E
D
C
B
A
1
2
3
4
5
6
7
8

※ ONE VOLTAGE : PB OR REC MODE. TWO VOLTAGES : PB AND (REC) MODE.

SCHEMATIC DIAGRAM	PAGE VT-125E/VT-135E
INTERNAL WIRING DIAGRAM	5-2 /5-2
IF UNIT	5-4 /5-4
TUNER UNIT	5-6 /5-6
V·S TUNING	5-10/5-10
Y/EQUALIZER	5-34/5-34
VPS	5-40/5-40
TIMER/OPERATION SWITCH	5-6 /5-6
SYSTEM CONTROL	5-45/5-54
REMOTE CONTROL	5-16/5-16
AUDIO/REAR JACK	5-42/5-57
RF CONVERTER	5-22/5-22
PREAMP	5-29/5-29
SERVO	5-35/5-62
Y/CHROMA	5-23/5-23
REGULATOR/CYLINDER MOTOR DRIVE	5-18/5-18


⚠F851
⚠F852
⚠F853
⚠T850
POWER TRANSFORMER
⚠F850
REG
594900
HTK-5V
L851
LINE FILTER
⚠ AC220V / 50Hz
⚠D854
⚠D855
⚠D852
⚠D853
⚠D851
C877
C878
C876
C875
C873
C874
C872
C871
R854
C880
D856
D857
C856
C879
To TIMER CN753
PG851
C855
IC851
R851
BLK
R853
R852
C853
D862
D861
C867
C861
D864
C865
ZD858
C860
D866
Q851
R860
C863
QR852
C864
C854
D865
R859
D867
To CYLINDER MOTOR
PG1651
TP851
C1652
C1653
R1653
C1651
C1663
R1660
R1651
R1652
R1655
R1654
C1654
To MAIN (SERVO) PG606
CN1652
CN852
BLK
To MAIN PG604
HTK-5V
C1655
R1661
IC1651
C1656
R1656
R1659
R1658
R1657
C1659
C1660
C1661
C1657
C1662
C1658

REGULATOR P.C.B

CYLINDER MOTOR DRIVE P.C.B

IC851

Pin	Voltage
1	5.2(5.1)
2	11.8(11.5)
3	9.3
4	11.9(11.8)
5	15.2(14.9)
6	18.0(17.2)
7	12.0(11.9)
8	15.2(14.7)
9	18.0(17.2)
10	0

※ ONE VOLTAGE : PB OR REC MODE,
TWO VOLTAGES : PB AND (REC) MODE.

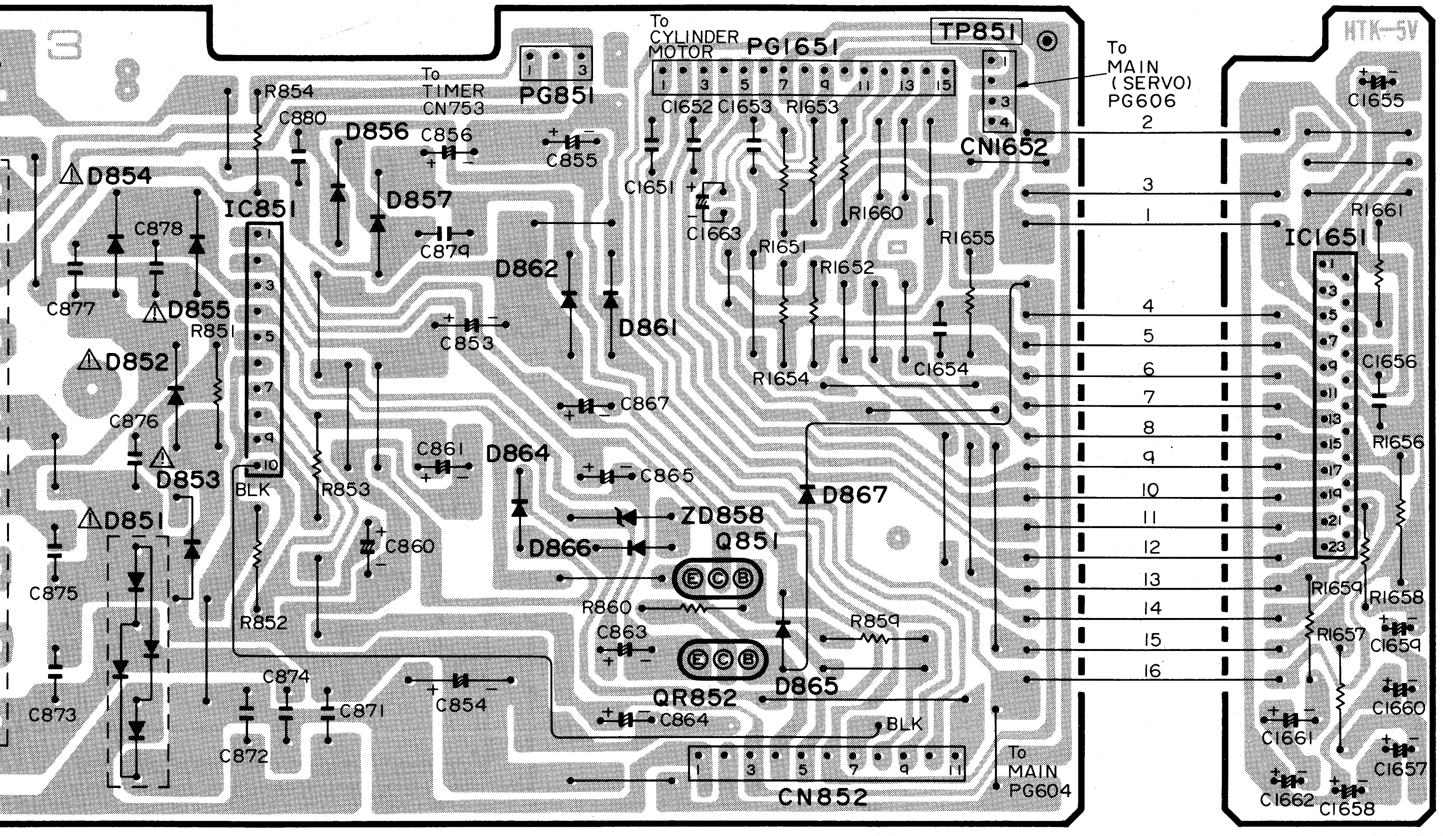
IC1651

Pin	Voltage
1	12.0(11.9)
2	12.0 (11.9)
3	0
4	4.7(4.6)
5	2.7
6	2.5
7	5.1
8	4.6
9	2.8
10	2.9(2.8)
11	2.8
12	0
13	2.1
14	0
15	2.1
16	0
17	2.5(2.1)
18	8.8
19	2.1
20	8.8
21	2.1
22	8.8(8.7)
23	2.1

RF CO

FROM MAIN (AUDIO/ REAR JACK)

FROM MAIN (AUDIO / REAR JACK)



R854
C880
To TIMER CN753
PG851
To CYLINDER MOTOR
PG1651
TP851
To MAIN (SERVO) PG606
CN1652
HTK-5V
D856
C856
C855
C1651
C1652
C1653
R1653
C1663
R1660
R1655
R1651
R1652
R1654
C1654
D854
IC851
C878
C879
D857
D862
D861
C877
D855
R851
C853
D852
C876
C867
C861
D864
C865
D853
BLK
R853
C860
D867
ZD858
D851
D866
Q851
R860
C875
R852
C863
R859
QR852
D865
C874
C871
C854
C864
C873
C872
BLK
CN852
To MAIN PG604
IC1651
C1655
R1661
C1656
R1656
R1659
R1658
R1657
C1659
C1660
C1661
C1657
C1662
C1658
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16

REGULATOR P.C.B

CYLINDER MOTOR DRIVE P.C.B

IC851

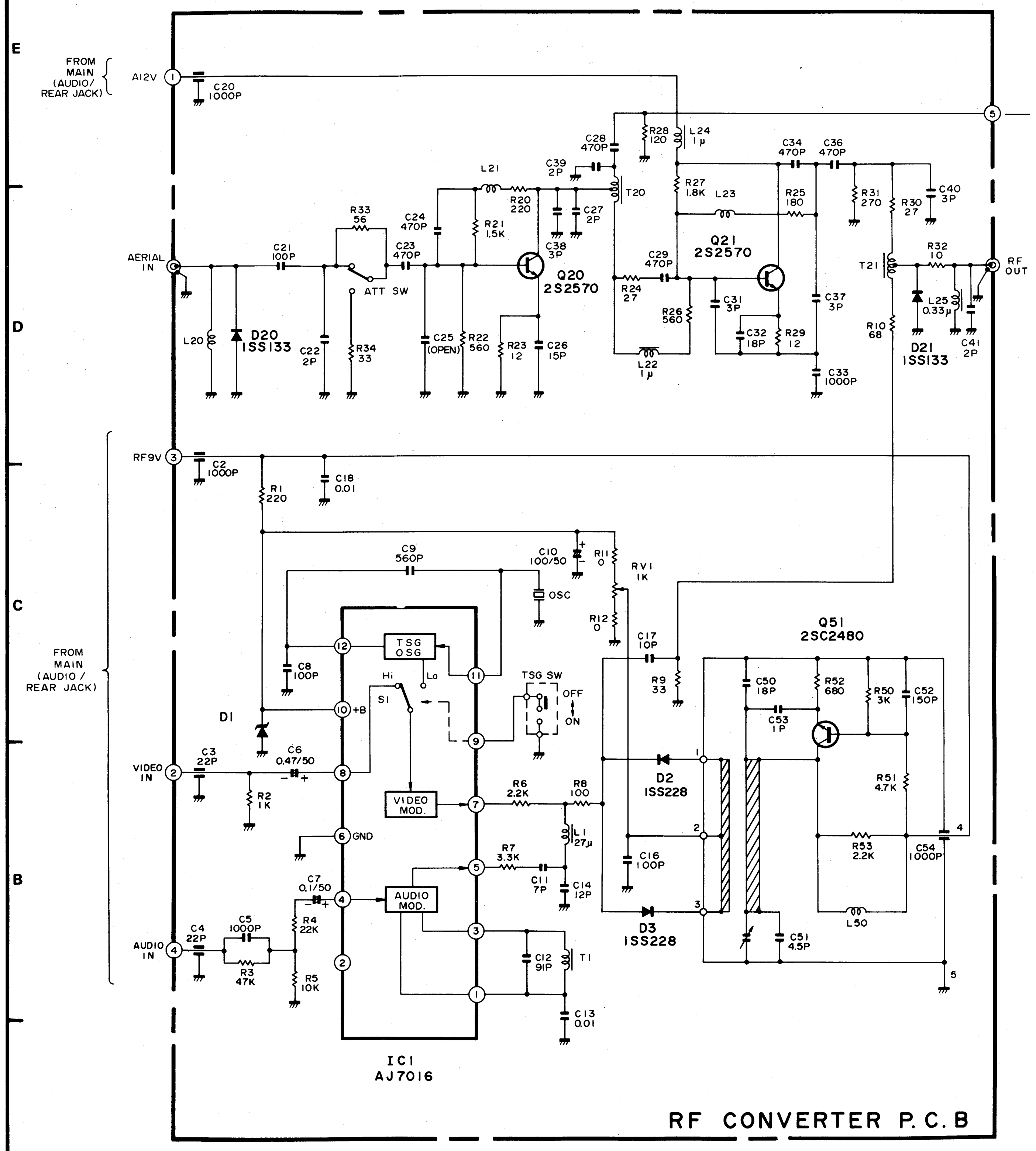
Pin	Voltage
1	5.2(5.1)
	11.8(11.5)
3	9.3
	11.9(11.8)
5	15.2(14.9)
	18.0(17.2)
7	12.0(11.9)
	15.2(14.7)
9	18.0(17.2)
10	0

IC1651

Voltage	Pin	Voltage
12.0(11.9)	1	12.0(11.9)
0	3	4.7(4.6)
2.7	5	2.5
5.1	7	4.6
2.8	9	2.9(2.8)
2.8	11	0
2.1	13	0
2.1	15	0
2.5(2.1)	17	8.8
2.1	19	8.8
2.1	21	8.8(8.7)
2.1	23	

※ ONE VOLTAGE : PB OR REC MODE,
TWO VOLTAGES : PB AND (REC) MODE.

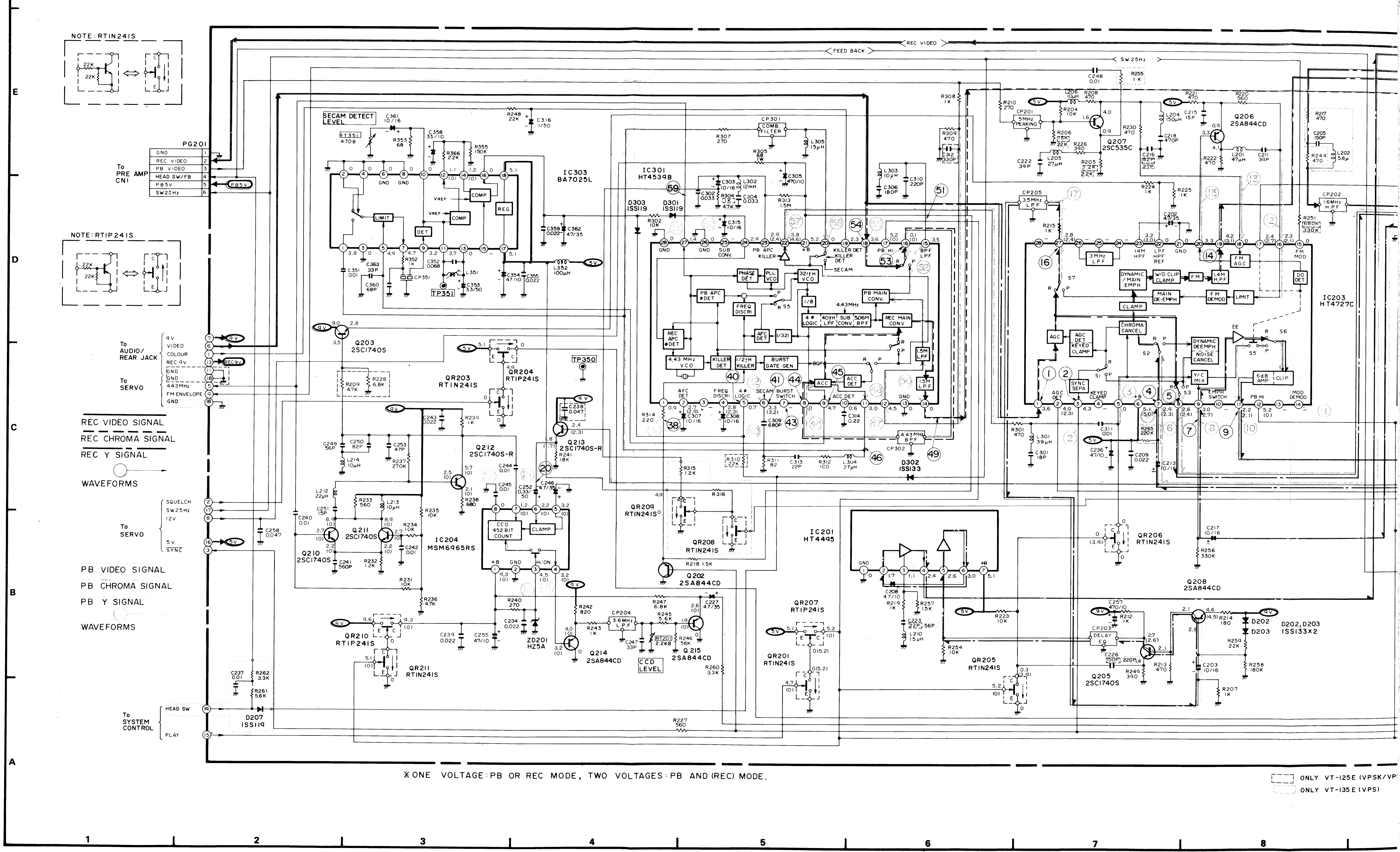
RF CONVERTER (HF-KONVERTER)



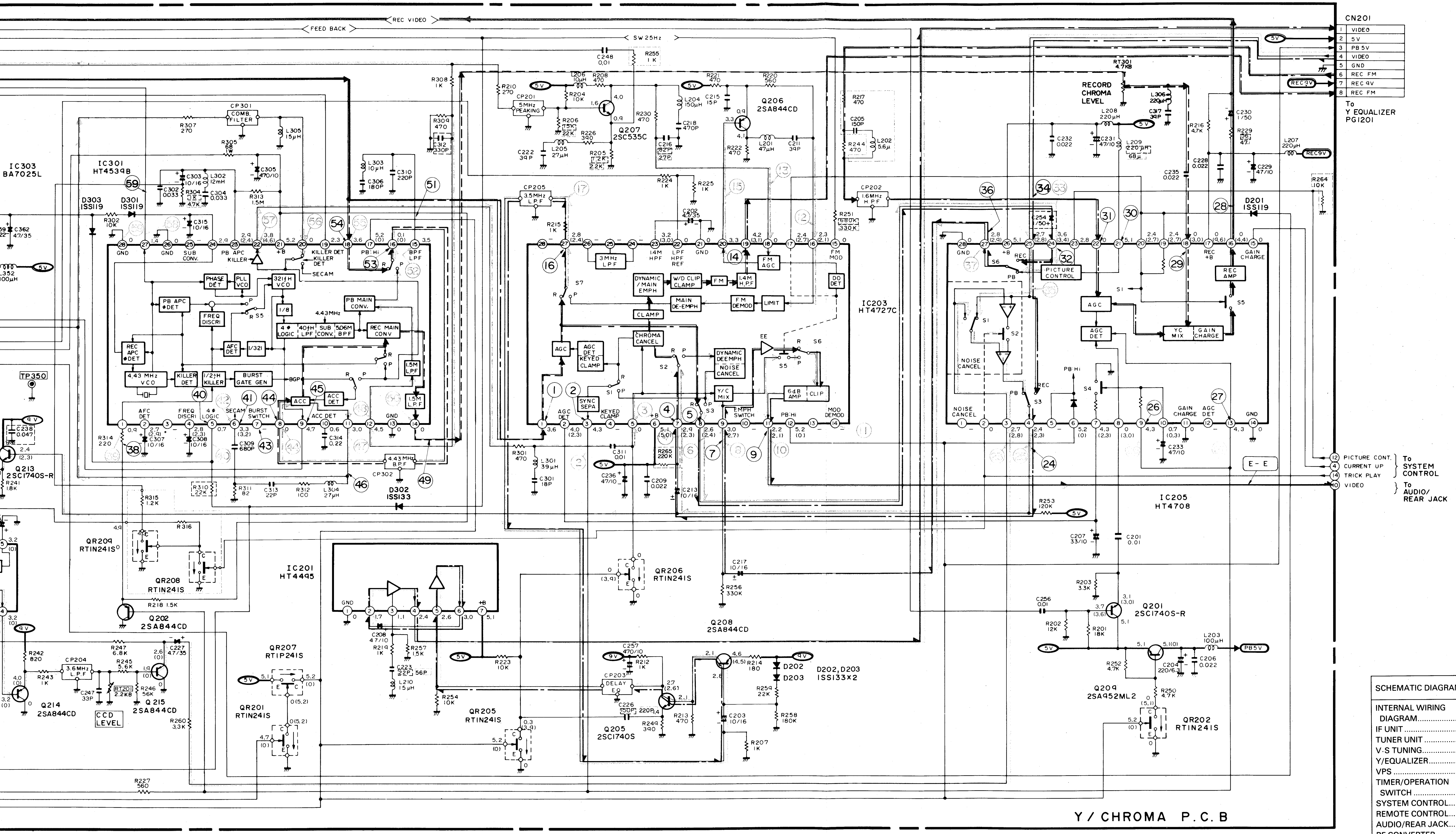
E
D
C
B
FROM MAIN (AUDIO/ REAR JACK)
A12V
C20 1000P
R28 120
L24 1μ
C28 470P
L21
C39 2P
R20 220
C27 2P
T20
R27 1.8K
L23
C34 470P
C36 470P
R25 180
R31 270
R30 27
C40 3P
R33 56
C24 470P
R21 1.5K
C38 3P
Q21 2S2570
AERIAL IN
C21 100P
C23 470P
ATT SW
Q20 2S2570
C29 470P
R24 27
R32 10
T21
RF OUT
C31 3P
C37 3P
R26 560
L25 0.33μ
R10 68
L20
D20 1SS133
C22 2P
R34 33
C25 (OPEN)
R22 560
R23 12
C26 15P
C32 18P
R29 12
L22 1μ
C33 1000P
D21 1SS133
C41 2P
RF9V
C2 1000P
C18 0.01
R1 220
C9 560P
C10 100/50
R11 0
RV1 1K
OSC
R12 0
C17 10P
Q51 2SC2480
FROM MAIN (AUDIO / REAR JACK)
C8 100P
TSG OSG
Hi
Lo
S1
+B
TSG SW
OFF
ON
R9 33
C50 18P
R52 680
R50 3K
C52 150P
C53 1P
D1
VIDEO IN
C3 22P
C6 0.47/50
R2 1K
VIDEO MOD.
R6 2.2K
R8 100
D2 1SS228
R51 4.7K
GND
L1 27μ
R7 3.3K
C11 7P
C14 12P
C16 100P
R53 2.2K
C54 1000P
C7 0.1/50
AUDIO IN
C4 22P
C5 1000P
R3 47K
R4 22K
R5 10K
AUDIO MOD.
C12 91P
T1
D3 1SS228
C51 4.5P
L50
C13 0.01
IC1 AJ7016
1
2
3
4
5
6
7
8
9
10
11
12
A

RF CONVERTER P.C.B

Y/CHROMA (LUMINANZ/CHROMINANZ)


NOTE: RTIN241S
NOTE: RTIP241S
PG201
GND
REC VIDEO
PB VIDEO
HEAD SW/FB
PB5V
SW25Hz
To PRE AMP CN1
To AUDIO/ REAR JACK
9V
VIDEO
COLOUR
REC 9V
To SERVO
4.43MHz
FM ENVELOPE
REC VIDEO SIGNAL
REC CHROMA SIGNAL
REC Y SIGNAL
WAVEFORMS
SQUELCH
SW25Hz
12V
5V
SYNC
PB VIDEO SIGNAL
PB CHROMA SIGNAL
PB Y SIGNAL
WAVEFORMS
To SYSTEM CONTROL
HEAD SW
PLAY
D207 1SS119
FEED BACK
REC VIDEO
SW 25Hz
SECAM DETECT LEVEL
RT351 470B
TP351
IC303 BA7025L
LIMIT
DET
COMP
REG
VREF
TP350
Q203 2SC1740S
QR203 RTIN241S
QR204 RTIP241S
Q212 2SC1740S-R
Q213 2SC1740S-R
Q211 2SC1740S
Q210 2SC1740S
IC204 MSM6965RS
CCD 452 BIT COUNT
CLAMP
QR210 RTIP241S
QR211 RTIN241S
ZD201 HZ5A
Q214 2SA844CD
CP204 3.6MHz L.P.F
Q215 2SA844CD
RT201 2.2KB
CCD LEVEL
IC301 HT4539B
D303 1SS119
D301 1SS119
CP301 COMB. FILTER
PB APC KILLER
KILLER DET
SECAM
PB:HI
BPF LPF
PHASE DET
PLL VCO
321fH VCO
PB APC DET
FREQ DISCRI
1/8
4ø LOGIC
40fH LPF
SUB CONV.
5.06M BPF
PB MAIN CONV.
REC MAIN CONV.
AFC DET
1/321
REC APC DET
4.43 MHz VCO
KILLER DET
1/2fH KILLER
BURST GATE GEN
1.5M LPF
ACC
ACC DET
AFC DET
FREQ DISCRI
4ø LOGIC
SECAM
BURST SWITCH
CP302 4.43MHz B.P.F
D302 1SS133
QR209 RTIN241S
QR208 RTIN241S
Q202 2SA844CD
IC201 HT4495
QR207 RTIP241S
QR201 RTIN241S
QR205 RTIN241S
CP201 5MHz PEAKING
Q207 2SC535C
Q206 2SA844CD
CP205 3.5MHz L.P.F
CP202 1.6MHz H.P.F
IC203 HT4727C
3MHz LPF
14M HPF
LPF HPF REF
FM AGC
FM MOD
DO DET
DYNAMIC /MAIN EMPH
W/D CLIP CLAMP
FM
1.4M H.P.F
MAIN DE-EMPH
FM DEMOD
LIMIT
CLAMP
AGC
AGC DET KEYED CLAMP
CHROMA CANCEL
DYNAMIC DEEMPH NOISE CANCEL
EE
Y/C MIX
6dB AMP
CLIP
SYNC SEPA
KEYED CLAMP
AGC DET
EMPH SWITCH
PB:HI
MOD DEMOD
QR206 RTIN241S
Q208 2SA844CD
CP203 DELAY EQ
Q205 2SC1740S
D202, D203 1SS133×2
ONLY VT-125E (VPSK/VP
ONLY VT-135E (VPS)

※ONE VOLTAGE: PB OR REC MODE, TWO VOLTAGES: PB AND (REC) MODE.


FEED BACK
REC VIDEO
SW 25Hz
CN201
1 VIDEO
2 5V
3 PB 5V
4 VIDEO
5 GND
6 REC FM
7 REC 9V
8 REC FM
To Y EQUALIZER PG1201
IC303 BA7025L
IC301 HT4539B
IC203 HT4727C
IC205 HT4708
IC201 HT4495
CP301 COMB. FILTER
CP201 5MHz PEAKING
CP205 3.5MHz L.P.F
CP202 1.6MHz H.P.F
CP302 4.43MHz B.P.F
CP203 DELAY
CP204 3.6MHz L.P.F
Q207 2SC535C
Q206 2SA844CD
Q213 2SC1740S-R
Q202 2SA844CD
Q208 2SA844CD
Q201 2SC1740S-R
Q209 2SA952ML2
Q205 2SC1740S
Q214 2SA844CD
Q 215 2SA844CD
QR209 RTIN241S
QR208 RTIN241S
QR206 RTIN241S
QR207 RTIP241S
QR201 RTIN241S
QR205 RTIN241S
QR202 RTIN241S
D303 1SS119
D301 1SS119
D302 1SS133
D201 1SS119
D202, D203 1SS133×2
RECORD CHROMA LEVEL
RT301 4.7KB
RT201 2.2KB
CCD LEVEL
TP350
PICTURE CONT.
CURRENT UP
TRICK PLAY
VIDEO
To SYSTEM CONTROL
To AUDIO/REAR JACK
E-E
PHASE DET
PLL VCO
321fH VCO
PB APC ϕDET
FREQ DISCRI
REC APC ϕDET
4.43 MHz VCO
KILLER DET
1/2fH KILLER
BURST GATE GEN
AFC DET
1/321
1/8
4ϕ LOGIC
40fH LPF
SUB CONV.
506M BPF
PB MAIN CONV.
REC MAIN CONV
1.5M LPF
ACC
ACC DET
3MHz LPF
DYNAMIC /MAIN EMPH
W/D CLIP CLAMP
FM
1.4M H.P.F
FM AGC
DO DET
MAIN DE-EMPH
FM DEMOD
LIMIT
CLAMP
CHROMA CANCEL
AGC
AGC DET KEYED CLAMP
SYNC SEPA
DYNAMIC DEEMPH NOISE CANCEL
Y/C MIX
6dB AMP
CLIP
PICTURE CONTROL
NOISE CANCEL
AGC DET
YC MIX
GAIN CHARGE
REC AMP
Y / CHROMA P.C.B
4
5
6
7
8
9
10
11

MODE, TWO VOLTAGES: PB AND (REC) MODE.

[ ] ONLY VT-125E (VPSK/VPS)
[ ] ONLY VT-135E (VPS)

SCHEMATIC DIAGRAM	PAGE VT-125E/VT-135E
INTERNAL WIRING DIAGRAM	5-2 /5-2
IF UNIT	5-4 /5-4
TUNER UNIT	5-6 /5-6
V·S TUNING	5-10/5-10
Y/EQUALIZER	5-34/5-34
VPS	5-40/5-40
TIMER/OPERATION SWITCH	5-6 /5-6
SYSTEM CONTROL	5-45/5-54
REMOTE CONTROL	5-16/5-16
AUDIO/REAR JACK	5-42/5-57
RF CONVERTER	5-22/5-22
PREAMP	5-29/5-29
SERVO	5-35/5-62
Y/CHROMA	5-23/5-23
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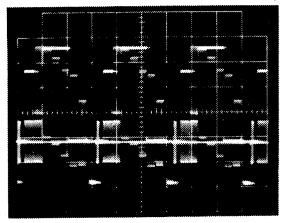
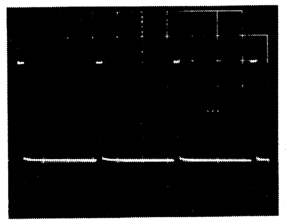
Y/CHROMA CIRCUIT WAVEFORMS (WELLENFORM)

[IC203] **(REC: Colour bar Video in/PB: Alignment tape)**

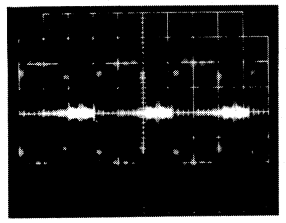
① PIN1 REC
0.1V/20μs. div.



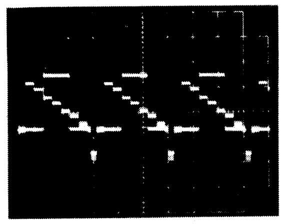
② PIN3 REC/PB
1V/20μs. div.



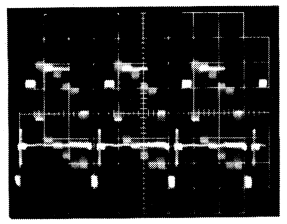
③ PIN5 PB
50mV/20μs. div.



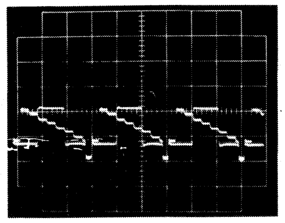
④ PIN7 REC/PB
0.1V/20μs. div.



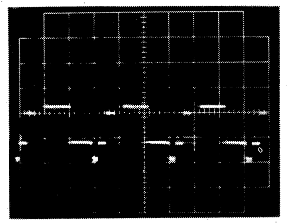
⑤ PIN8 REC
50mV/20μs. div.



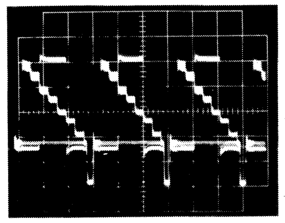
⑥ PIN8 PB
0.5V/20μs. div.



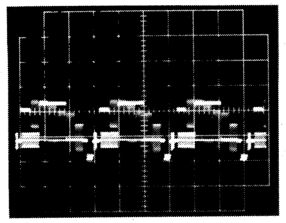
⑦ PIN9 REC
0.1V/20μs. div.



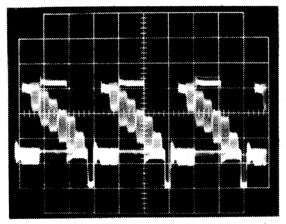
⑧ PIN9 PB
0.2V/20μs. div.



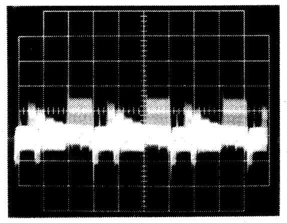
⑨ PIN11 REC
0.1V/20μs. div.



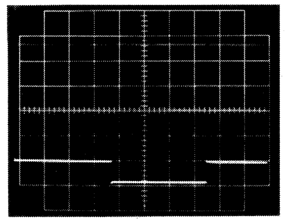
⑩ PIN11 PB
0.5V/20μs. div.



⑪ PIN14 PB
0.2V/20μs. div.

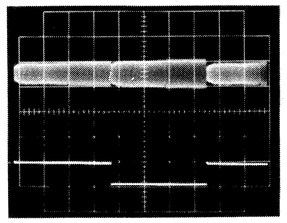


⑫ PIN16 PB
0.5V/5ms. div.



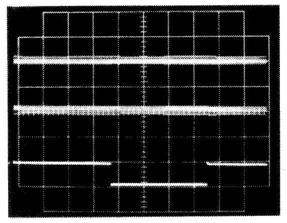
(SW25Hz: 5Vdiv.)

⑬ PIN18 PB
0.5V/5ms. div.



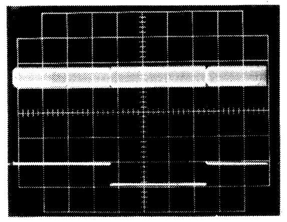
(SW25Hz: 5Vdiv.)

⑭ PIN19 REC
0.5V/5ms. div.



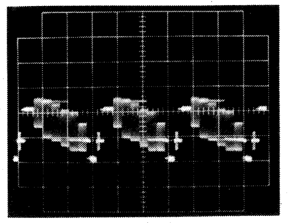
(SW25Hz: 5Vdiv.)

⑮ PIN20 PB
0.5V/5ms. div.

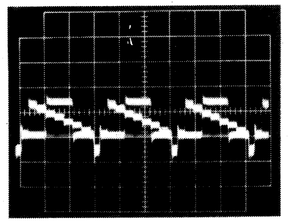


(SW25Hz: 5Vdiv.)

⑯ PIN27 REC
0.1V/20μs. div.

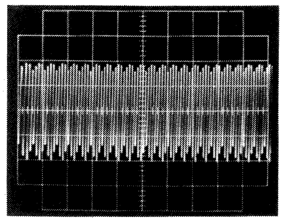


⑰ PIN27 PB
0.1V/20μs. div.

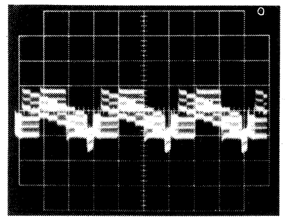


[IC204]

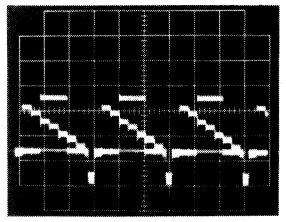
⑱ PIN3 PB
0.2V/0.5μs. div.



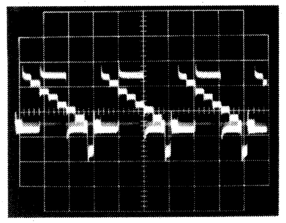
⑲ PIN4 PB
0.5V/20μs. div.



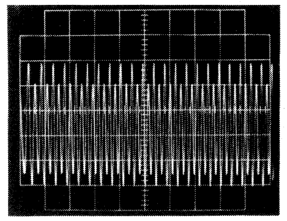
⑳ PIN6 REC
0.1V/20μs. div.



㉑ PIN6 PB
0.1V/20μs. div.

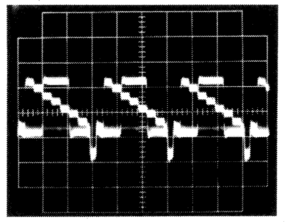


㉒ PIN7 PB
0.1V/0.5μs. div.

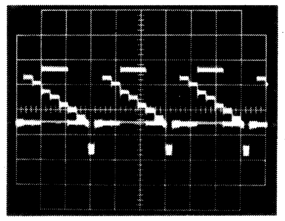


[IC205]

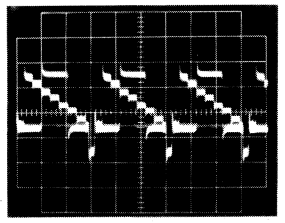
㉓ PIN3 PB
0.1V/20μs. div.



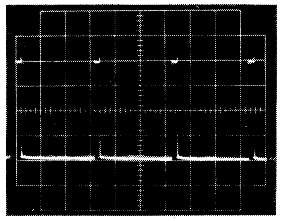
㉔ PIN 4 REC
10mV/20μs. div.



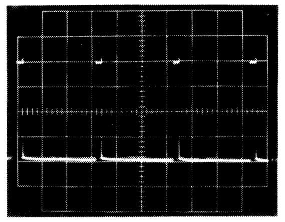
㉕ PIN4 PB
10mV/20μs. div.



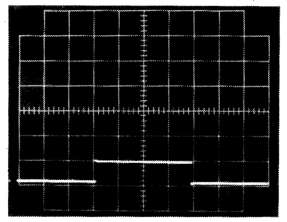
㉖ PIN9 REC/PB
1V/20μs. div.



㉗ PIN13 REC/PB
1V/20μs. div.

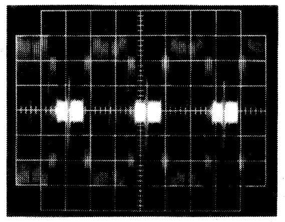


㉘ PIN16 REC
0.5V/5ms. div.

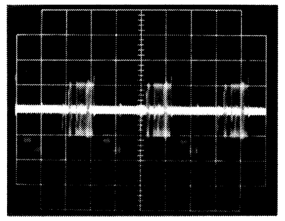


(SW25Hz: 5Vdiv.)

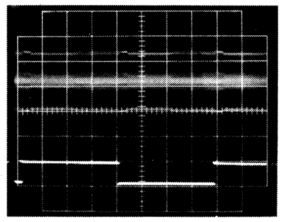
㉙ PIN18 REC
20mV/20μs. div.



㉚ PIN21 REC
50mV/20μs. div.

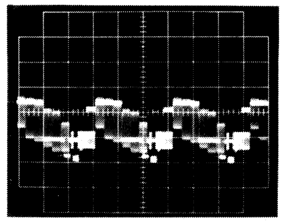


㉛ PIN22 REC
0.2V/5ms. div.

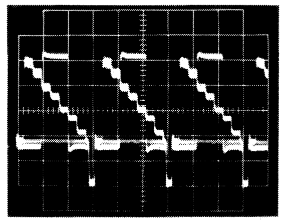


(SW25Hz: 5Vdiv.)

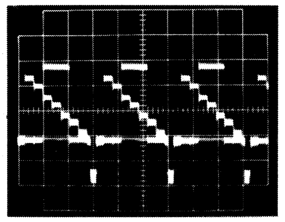
㉜ PIN24 REC
0.1V/20μs. div.



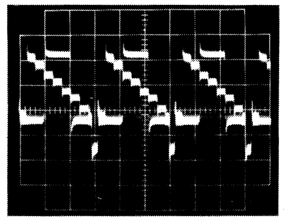
㉝ PIN24 PB
0.2V/20μs. div.



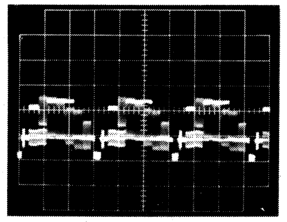
㉞ PIN25 REC
0.1V/20μs. div.



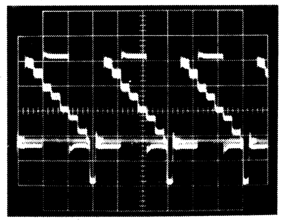
㉟ PIN25 PB
0.1V/20μs. div.



(36) PIN27 REC
0.1V/20μs. div.

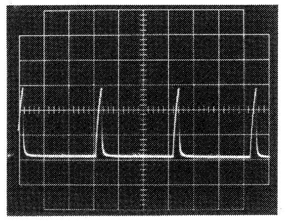


(37) PIN27 PB
0.2V/20μs. div.

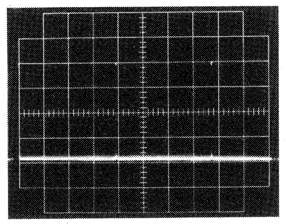


[IC301]

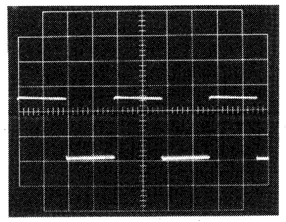
㊳ PIN1 REC
1V/20μs. div.



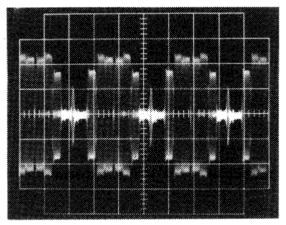
㊴ PIN1 PB
1V/0.5ms. div.



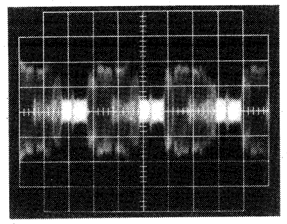
㊵ PIN5 REC/PB
0.5V/10ms. div.



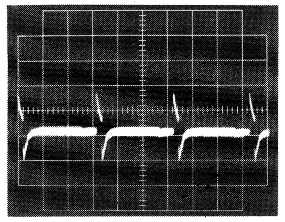
㊶ PIN6 REC
0.1V/20μs. div.



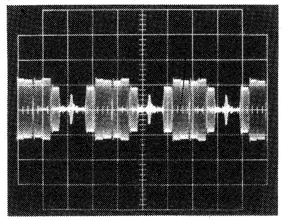
㊷ PIN6 PB
20mV/20μs. div.



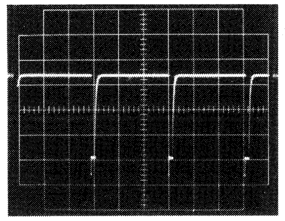
㊸ PIN7 REC/PB
0.1V/20μs. div.



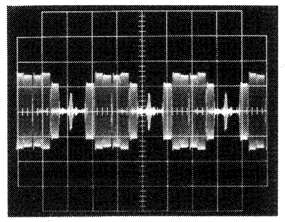
㊹ PIN8 REC/PB
50mV/20μs. div.



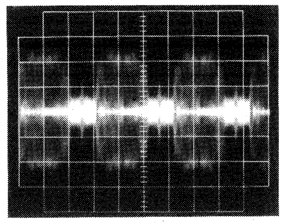
㊺ PIN9 REC/PB
1V/20μs. div.



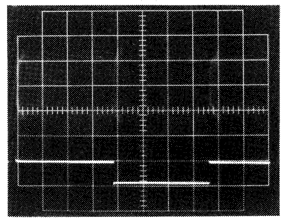
㊻ PIN11 REC
0.2V/20μs. div.



㊼ PIN11 PB
0.2V/20μs. div.

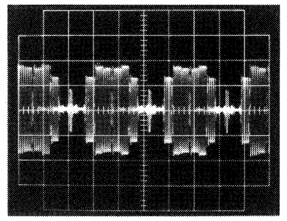


㊽ PIN12 PB
50mV/0.5ms. div.

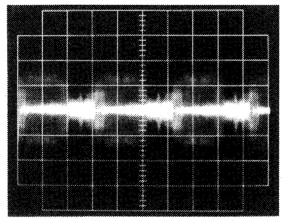


(SW25Hz: 5Vdiv.)

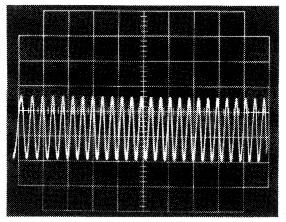
㊾ PIN14 REC
0.1V/20μs. div.



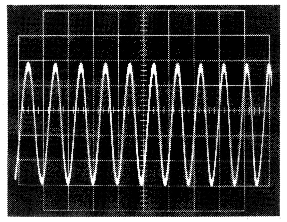
㊿ PIN14 PB
50mV/20μs. div.



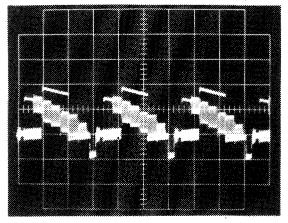
(51) PIN15 REC
0.1V/0.5μs. div.



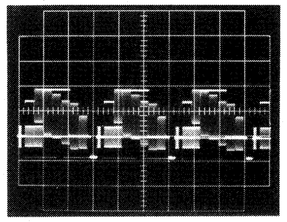
(52) PIN15 PB
50mV/0.2μs. div.



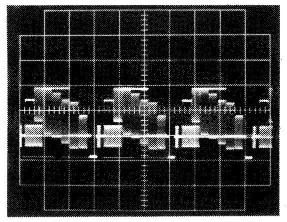
(53) PIN16 REC
0.2V/20μs. div.



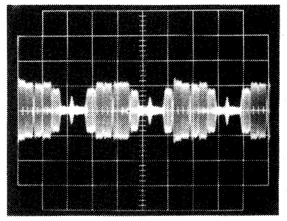
(54) PIN18 REC
0.2V/20μs. div.



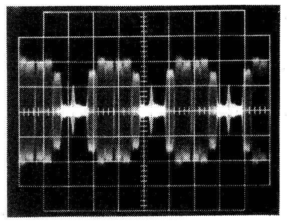
(55) PIN18 PB
0.2V/20μs. div.



(56) PIN20 PB
50mV/20μs. div.

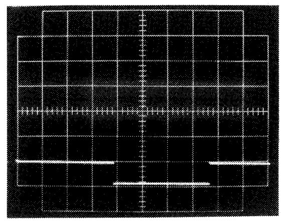


(57) PIN22 PB
0.1V/20μs. div.



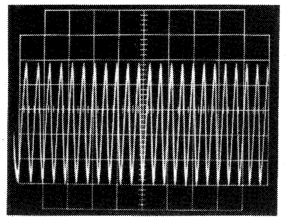
[IC301]

(58) PIN25 PB
0.1V/5ms. div.

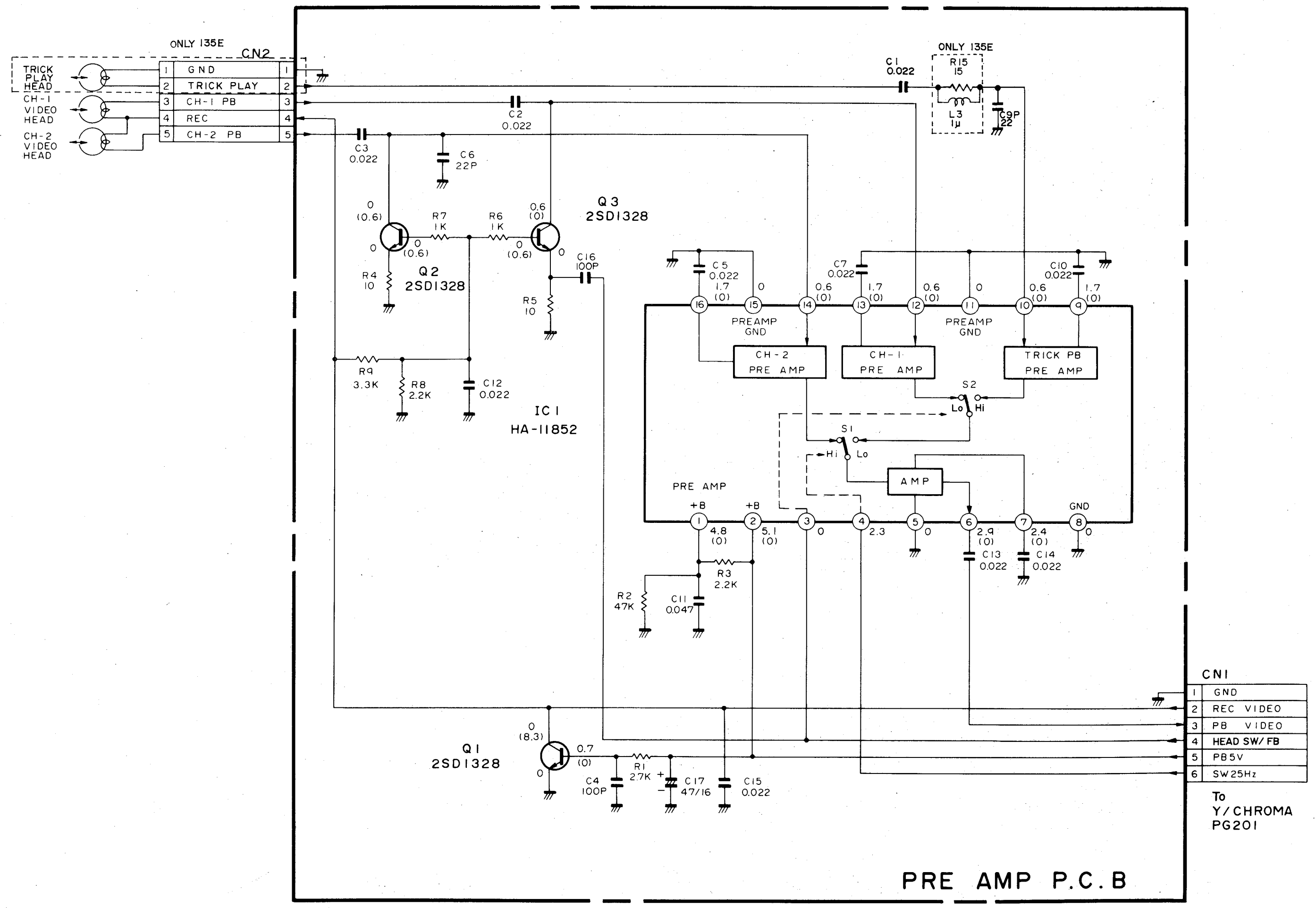


(SW25Hz: 5Vdiv.)

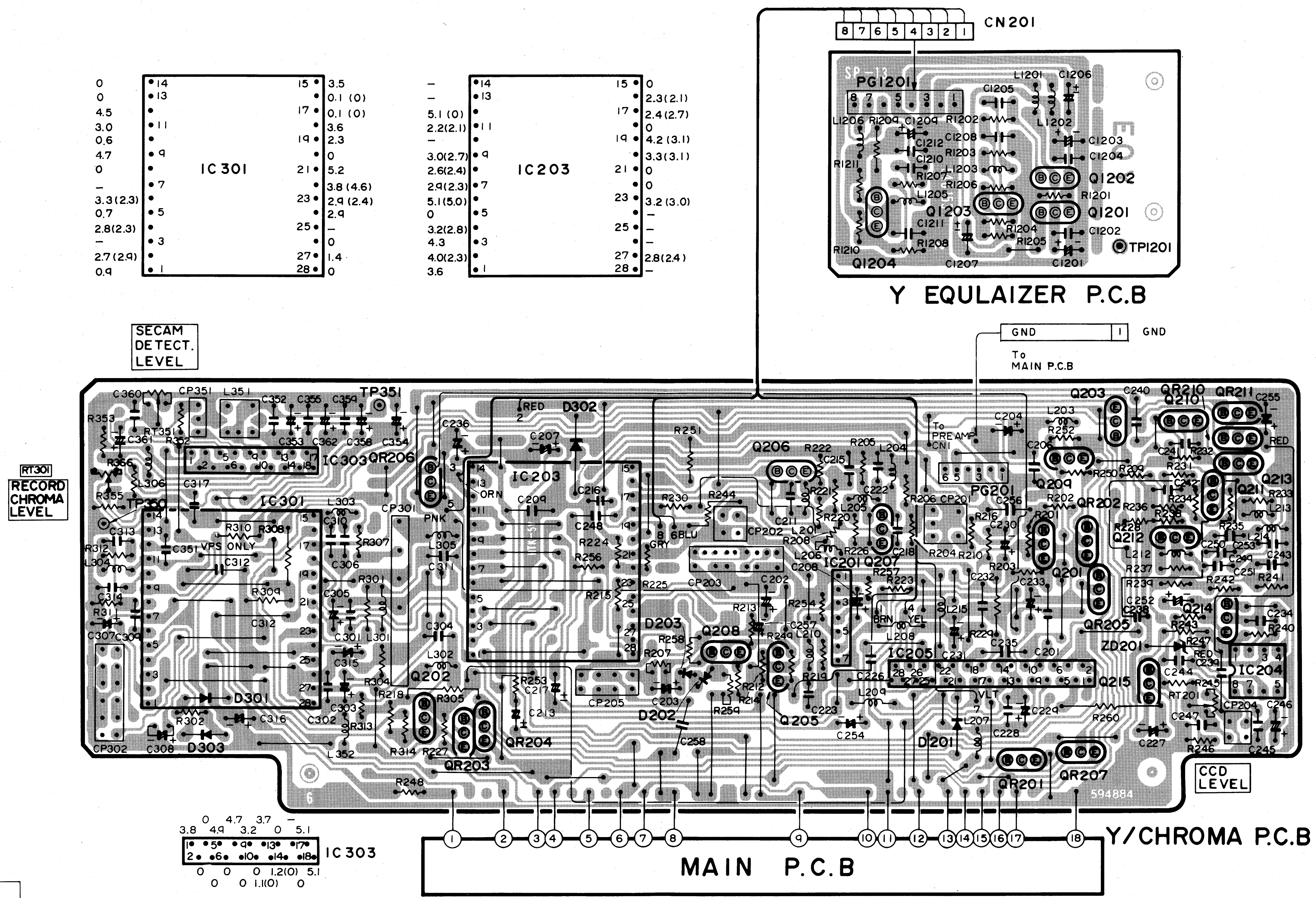
(59) PIN27 REC/PB
50mV/0.5μs. div.

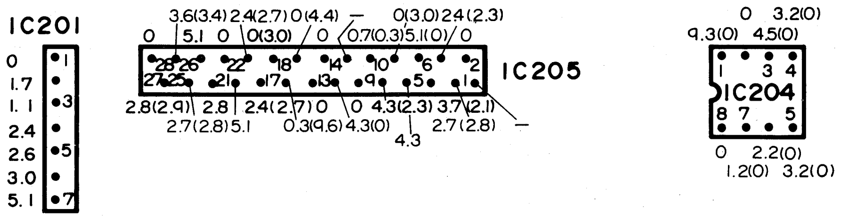


PREAMP (VORVERSTÄRKER)


ONLY 135E
CN2
TRICK PLAY HEAD
CH-1 VIDEO HEAD
CH-2 VIDEO HEAD
1 GND
2 TRICK PLAY
3 CH-1 PB
4 REC
5 CH-2 PB
C2 0.022
C3 0.022
C6 22P
Q2 2SD1328
Q3 2SD1328
R7 1K
R6 1K
R4 10
R5 10
C16 100P
R9 3.3K
R8 2.2K
C12 0.022
IC1 HA-11852
C1 0.022
R15 15
L3 1μ
C9P 22
C5 0.022
C7 0.022
C10 0.022
PREAMP GND
CH-2 PRE AMP
CH-1 PRE AMP
TRICK PB PRE AMP
S1
S2
Hi
Lo
AMP
PRE AMP
+B
GND
R3 2.2K
R2 47K
C11 0.047
C13 0.022
C14 0.022
Q1 2SD1328
C4 100P
R1 2.7K
C17 47/16
C15 0.022
CN1
1 GND
2 REC VIDEO
3 PB VIDEO
4 HEAD SW/FB
5 PB5V
6 SW25Hz
To Y/CHROMA PG201
PRE AMP P.C.B
C
B
A
1
2
3
4

※ONE VOLTAGE : PB OR REC MODE
TWO VOLTAGES : PB AND (REC) MODE.


IC301
IC203
CN201
Y EQULAIZER P.C.B
Q1201
Q1202
Q1203
Q1204
TP1201
PG1201
GND
To MAIN P.C.B
SECAM DETECT. LEVEL
RT301
RECORD CHROMA LEVEL
CCD LEVEL
IC303
IC301
IC203
IC201
IC205
IC204
PG201
D301
D302
D303
D201
D202
D203
Q202
Q203
Q205
Q206
Q207
Q208
Q209
Q210
Q211
Q212
Q213
Q214
Q215
QR201
QR202
QR203
QR204
QR205
QR206
QR207
QR210
QR211
ZD201
TP351
TP350
To PREAMP CN1
MAIN P.C.B
Y/CHROMA P.C.B
594884

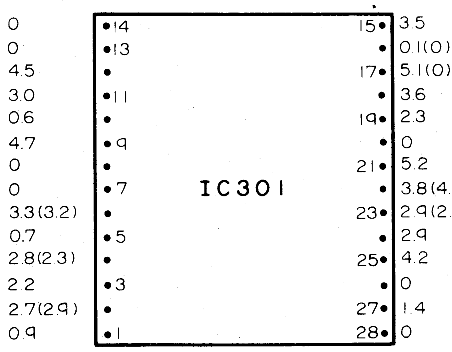

IC201
IC205
IC204

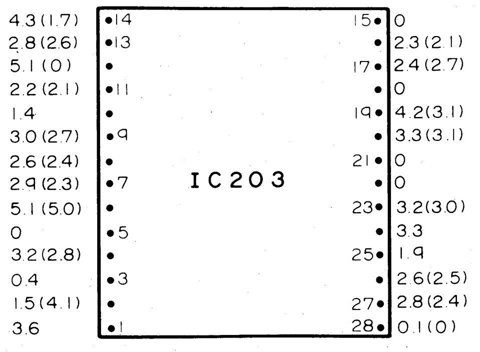
※ ONE VOLTAGE : PB OR REC MODE,
TWO VOLTAGES : PB AND(REC) MODES.

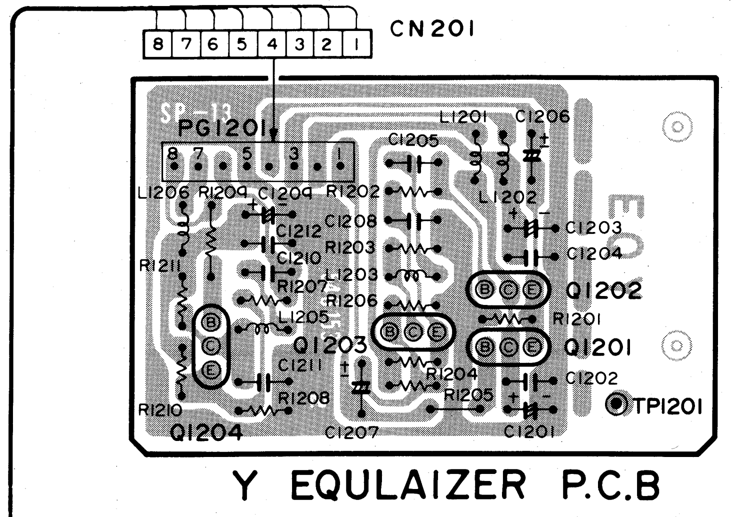
SCHEMATIC DIAGRAM	PAGE VT-125E/VT-135E
INTERNAL WIRING DIAGRAM	5-2 /5-2
IF UNIT	5-4 /5-4
TUNER UNIT	5-6 /5-6
V-S TUNING	5-10/5-10
Y/EQUALIZER	5-34/5-34
VPS	5-40/5-40
TIMER/OPERATION SWITCH	5-6 /5-6
SYSTEM CONTROL	5-45/5-54
REMOTE CONTROL	5-16/5-16
AUDIO/REAR JACK	5-42/5-57
RF CONVERTER	5-22/5-22
PREAMP	5-29/5-29
SERVO	5-35/5-62
Y/CHROMA	5-23/5-23
REGULATOR/CYLINDER MOTOR DRIVE	5-18/5-18

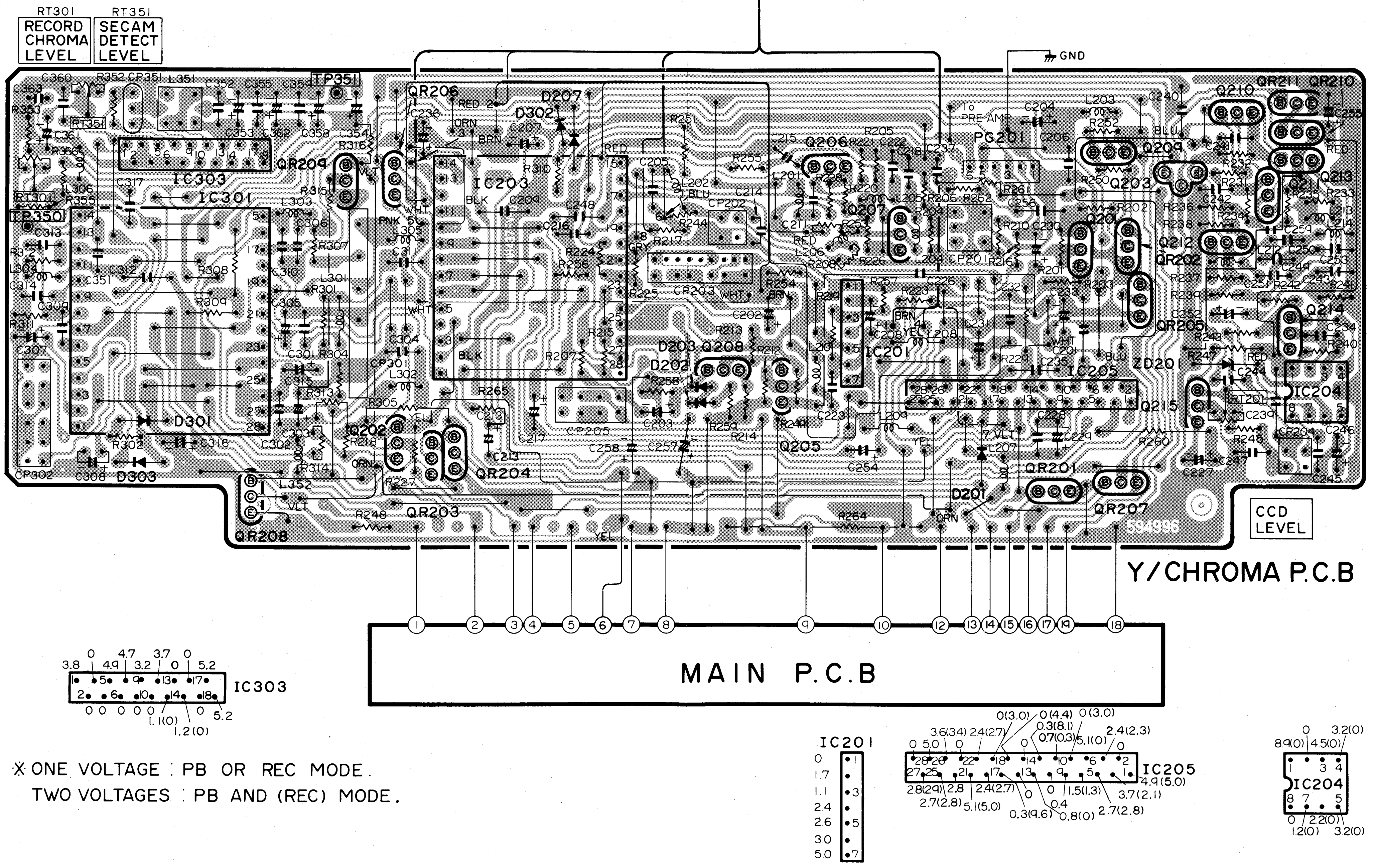
VT-125E (VPS/VPSK)

FOR VT-125E (VPS/VSPK)


IC301
0
0
4.5
3.0
0.6
4.7
0
0
3.3(3.2)
0.7
2.8(2.3)
2.2
2.7(2.9)
0.9
3.5
0.1(0)
5.1(0)
3.6
2.3
0
5.2
3.8(4.6)
2.9(2.4)
2.9
4.2
0
1.4
0


IC203
4.3(1.7)
2.8(2.6)
5.1(0)
2.2(2.1)
1.4
3.0(2.7)
2.6(2.4)
2.9(2.3)
5.1(5.0)
0
3.2(2.8)
0.4
1.5(4.1)
3.6
0
2.3(2.1)
2.4(2.7)
0
4.2(3.1)
3.3(3.1)
0
0
3.2(3.0)
3.3
1.9
2.6(2.5)
2.8(2.4)
0.1(0)


CN201
8 7 6 5 4 3 2 1
PG1201
Q1201
Q1202
Q1203
Q1204
TP1201
Y EQULAIZER P.C.B


RT301
RECORD CHROMA LEVEL
RT351
SECAM DETECT LEVEL
TP351
TP350
IC301
IC303
IC203
IC201
IC205
IC204
Q206
Q207
Q208
Q209
Q210
Q211
Q212
Q213
Q214
Q215
Q205
QR201
QR202
QR203
QR204
QR205
QR206
QR207
QR208
QR209
QR210
QR211
D301
D303
D201
D202
D203
D207
D302
ZD201
PG201
To PRE AMP
GND
CCD LEVEL
594996
Y/CHROMA P.C.B
1 2 3 4 5 6 7 8 9 10 12 13 14 15 16 17 19 18
MAIN P.C.B

IC303
3.8
0
4.9
4.7
3.2
3.7
0
5.2
0 0 0 0 0
1.1(0)
1.2(0)
0
5.2

※ ONE VOLTAGE : PB OR REC MODE.
TWO VOLTAGES : PB AND (REC) MODE.

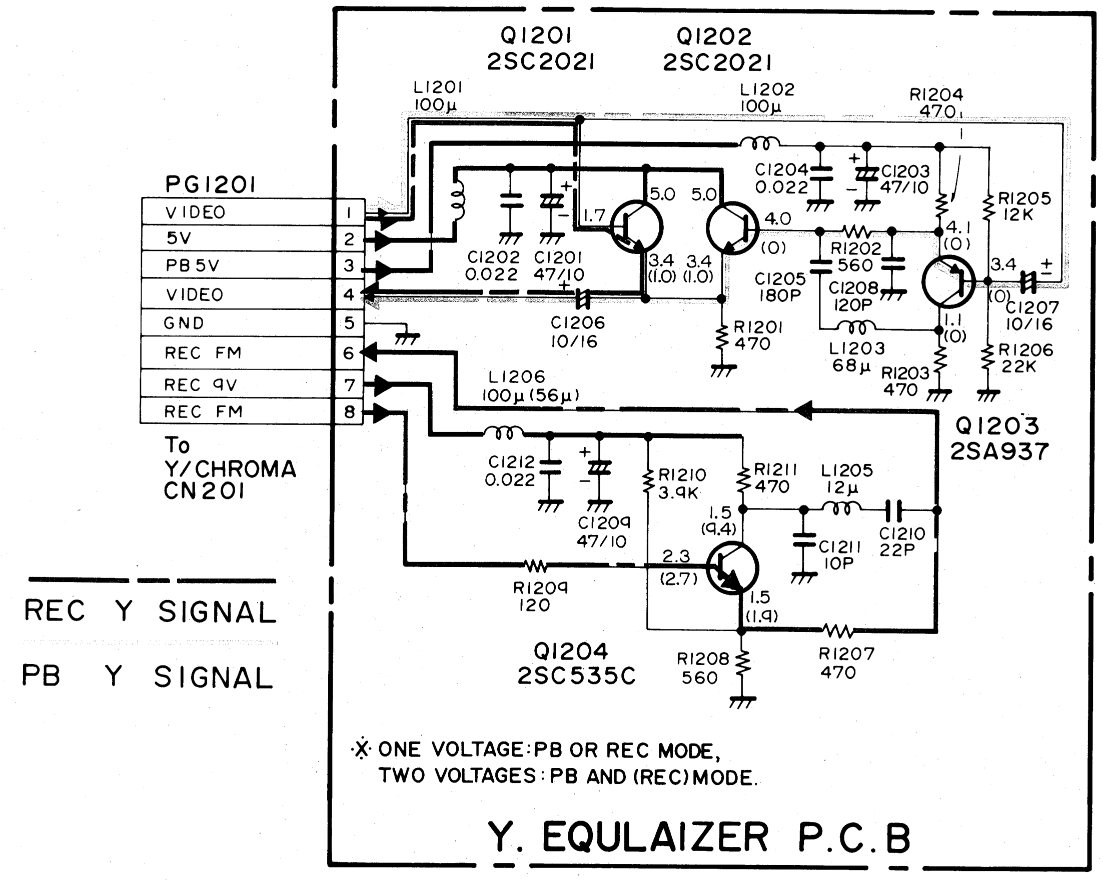
IC201
0
1.7
1.1
2.4
2.6
3.0
5.0

IC205
0(3.0)
0(4.4)
0(3.0)
3.6(3.4)
2.4(2.7)
0.3(8.1)
2.4(2.3)
0 5.0
0
0
0.7(0.3)
5.1(0)
0
4.9(5.0)
2.8(2.9)
2.8
2.4(2.7)
2.7(2.8)
5.1(5.0)
0
1.5(1.3)
3.7(2.1)
0.3(4.6)
0.4
0.8(0)
2.7(2.8)

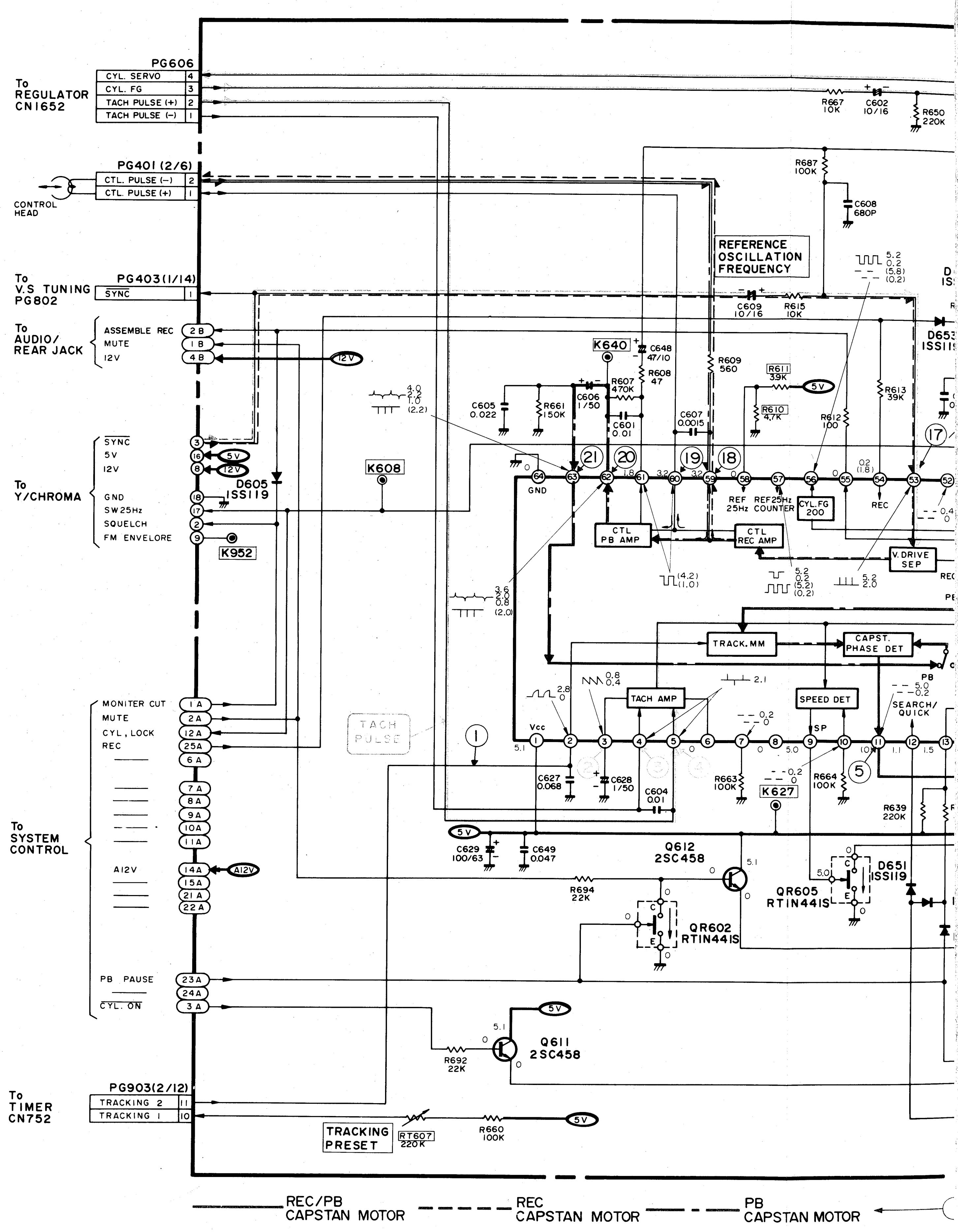
IC204
0
3.2(0)
8.9(0)
4.5(0)
0
2.2(0)
1.2(0)
3.2(0)

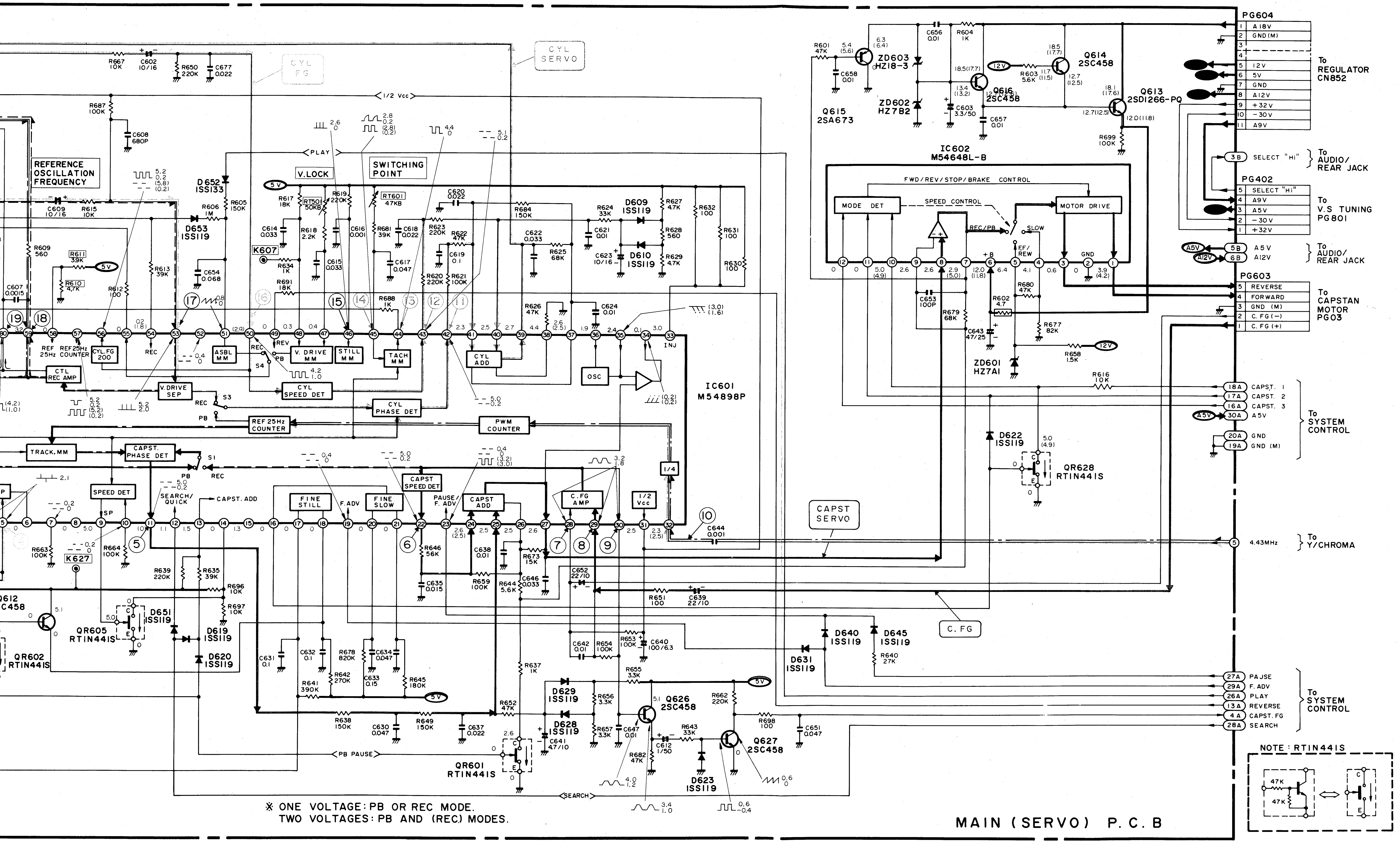
FOR VT-135E (VPS)

Y/EQUALIZER (LUMINANZ/ENTZERRER)


Q1201 2SC2021
Q1202 2SC2021
Q1203 2SA937
Q1204 2SC535C
L1201 100μ
L1202 100μ
L1203 68μ
L1205 12μ
L1206 100μ (56μ)
R1201 470
R1202 560
R1203 470
R1204 470
R1205 12K
R1206 22K
R1207 470
R1208 560
R1209 120
R1210 3.9K
R1211 470
C1201 47/10
C1202 0.022
C1203 47/10
C1204 0.022
C1205 180P
C1206 10/16
C1207 10/16
C1208 120P
C1209 47/10
C1210 22P
C1211 10P
C1212 0.022
PG1201
VIDEO 1
5V 2
PB 5V 3
VIDEO 4
GND 5
REC FM 6
REC 9V 7
REC FM 8
To Y/CHROMA CN201
REC Y SIGNAL
PB Y SIGNAL
※ ONE VOLTAGE: PB OR REC MODE, TWO VOLTAGES: PB AND (REC) MODE.
Y. EQULAIZER P.C.B

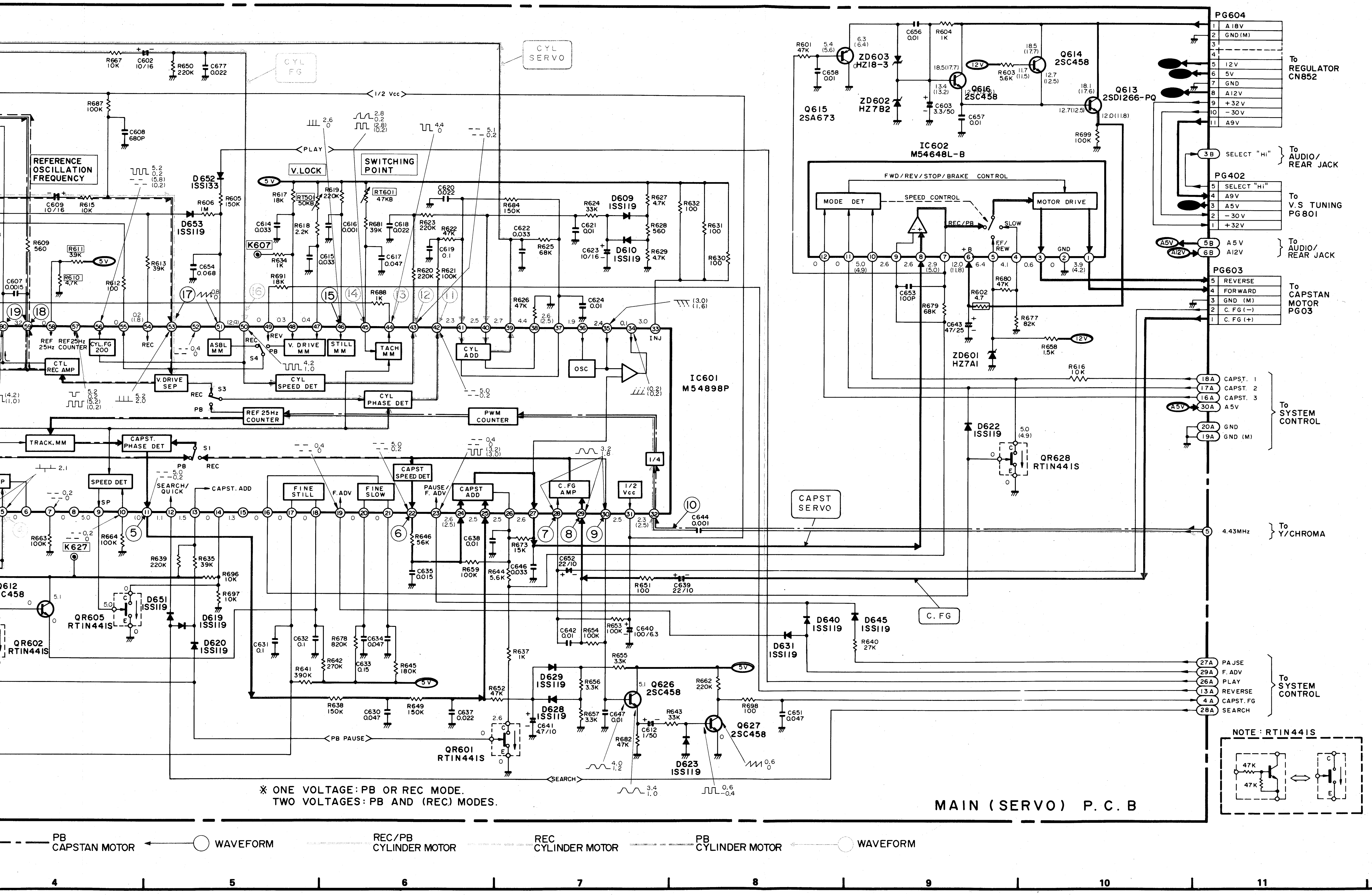
SERVO VP-125E (VPS/VPSK)

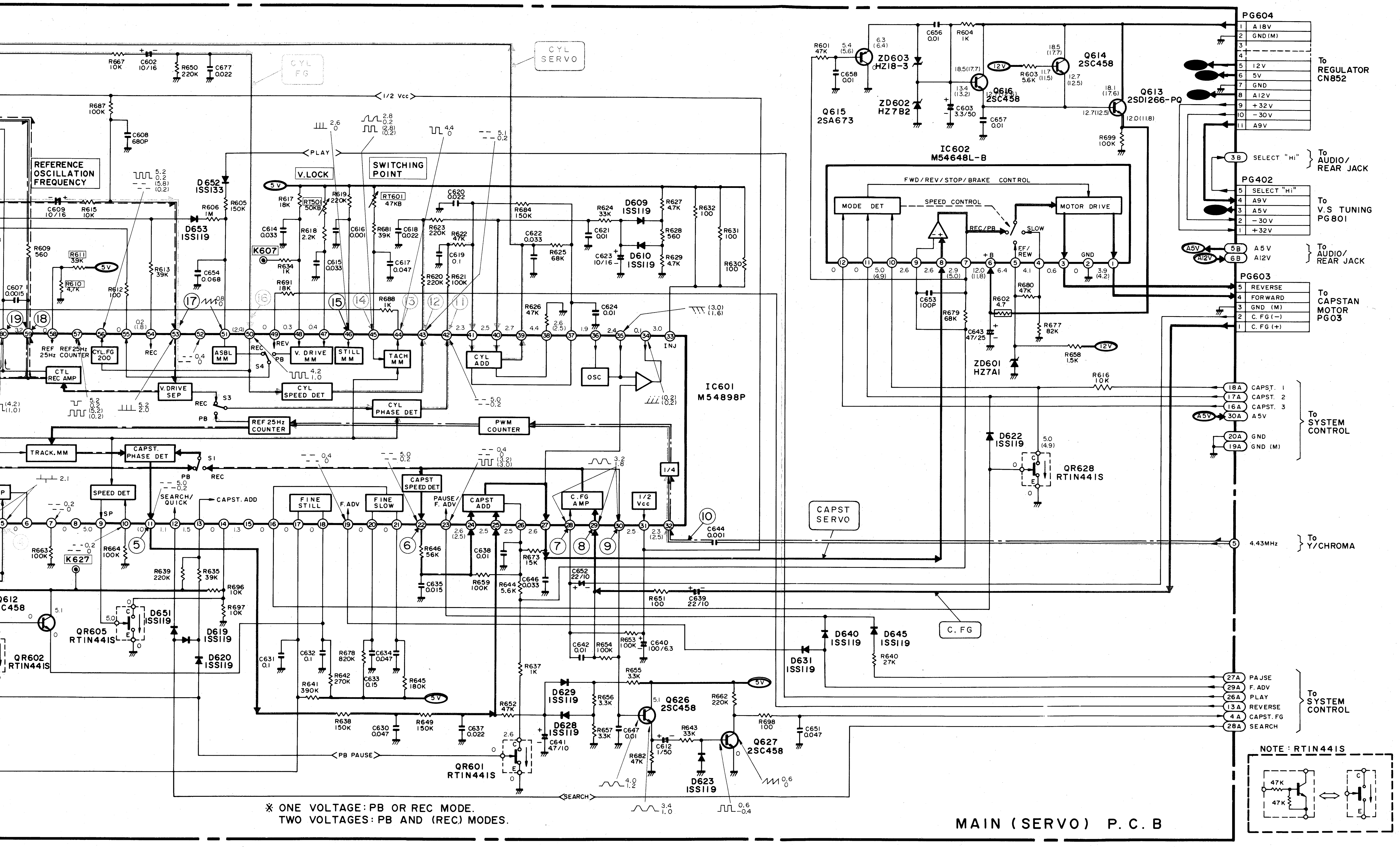

To REGULATOR CN1652
PG606
CYL. SERVO 4
CYL. FG 3
TACH PULSE (+) 2
TACH PULSE (−) 1
PG401 (2/6)
CTL. PULSE (−) 2
CTL. PULSE (+) 1
CONTROL HEAD
To V.S TUNING PG802
PG403 (1/14)
SYNC 1
To AUDIO/REAR JACK
ASSEMBLE REC 2B
MUTE 1B
12V 4B
To Y/CHROMA
SYNC
5V
12V
GND
SW25Hz
SQUELCH
FM ENVELORE
K640
K608
K952
K627
D605 ISS119
REFERENCE OSCILLATION FREQUENCY
CTL PB AMP
CTL REC AMP
REF 25Hz
REF25Hz COUNTER
CYL.FG 200
V.DRIVE SEP
TRACK. MM
CAPST. PHASE DET
TACH AMP
SPEED DET
SEARCH/QUICK
TACH PULSE
To SYSTEM CONTROL
MONITER CUT 1A
MUTE 2A
CYL. LOCK 12A
REC 25A
A12V 14A
PB PAUSE 23A
CYL. ON 3A
Q612 2SC458
Q611 2SC458
QR605 RTIN441S
QR602 RTIN441S
D651 ISS119
To TIMER CN752
PG903 (2/12)
TRACKING 2 11
TRACKING 1 10
TRACKING PRESET
RT607 220K
R660 100K
R692 22K
R694 22K
R667 10K
C602 10/16
R650 220K
R687 100K
C608 680P
C609 10/16
R615 10K
R611 39K
R610 4.7K
R609 560
R613 39K
R612 100
R607 470K
R608 47
C648 47/10
C606 1/50
C601 0.01
C607 0.0015
C605 0.022
R661 150K
C627 0.068
C628 1/50
C604 0.01
C629 100/63
C649 0.047
R663 100K
R664 100K
R639 220K
REC/PB CAPSTAN MOTOR
REC CAPSTAN MOTOR
PB CAPSTAN MOTOR


PG604
A18V
GND (M)
12V
5V
GND
A12V
+32V
−30V
A9V
To REGULATOR CN852
SELECT "Hi"
To AUDIO/ REAR JACK
PG402
To V.S TUNING PG801
A5V
A12V
PG603
REVERSE
FORWARD
GND (M)
C.FG (−)
C.FG (+)
To CAPSTAN MOTOR PG03
CAPST. 1
CAPST. 2
CAPST. 3
GND
To SYSTEM CONTROL
4.43MHz
To Y/CHROMA
PAUSE
F. ADV
PLAY
REVERSE
CAPST. FG
SEARCH
NOTE : RTIN441S
IC602 M54648L-B
FWD/REV/STOP/BRAKE CONTROL
MODE DET
SPEED CONTROL
MOTOR DRIVE
REC/PB
SLOW
FF/REW
Q614 2SC458
Q613 2SD1266-PQ
Q616 2SC458
Q615 2SA673
ZD603 HZ18-3
ZD602 HZ7B2
ZD601 HZ7A1
D622 1SS119
QR628 RTIN441S
IC601 M54898P
CYL SERVO
CYL FG
1/2 Vcc
PLAY
REFERENCE OSCILLATION FREQUENCY
V.LOCK
SWITCHING POINT
K607
D652 1SS133
D653 1SS119
D609 1SS119
D610 1SS119
REF 25Hz
REF 25Hz COUNTER
CYL FG 200
CTL REC AMP
ASBL MM
V. DRIVE MM
STILL MM
TACH MM
CYL ADD
OSC
INJ
V. DRIVE SEP
CYL SPEED DET
CYL PHASE DET
REF 25Hz COUNTER
PWM COUNTER
TRACK. MM
CAPST. PHASE DET
SPEED DET
SEARCH/ QUICK
CAPST. ADD
FINE STILL
F. ADV
FINE SLOW
CAPST SPEED DET
PAUSE/ F. ADV
CAPST ADD
C.FG AMP
1/2 Vcc
1/4
CAPST SERVO
C. FG
K627
QR605 RTIN441S
D651 1SS119
D619 1SS119
D620 1SS119
QR602 RTIN441S
D640 1SS119
D645 1SS119
D631 1SS119
D629 1SS119
D628 1SS119
Q626 2SC458
Q627 2SC458
D623 1SS119
QR601 RTIN441S
PB PAUSE
SEARCH
※ ONE VOLTAGE : PB OR REC MODE.
TWO VOLTAGES : PB AND (REC) MODES.
MAIN (SERVO) P.C.B

PB CAPSTAN MOTOR — WAVEFORM — REC/PB CYLINDER MOTOR — REC CYLINDER MOTOR — PB CYLINDER MOTOR — WAVEFORM

4 5 6 7 8 9 10 11


MAIN (SERVO) P.C.B
※ ONE VOLTAGE: PB OR REC MODE.
TWO VOLTAGES: PB AND (REC) MODES.
IC601
M54898P
IC602
M54648L-B
FWD/REV/STOP/BRAKE CONTROL
MODE DET
SPEED CONTROL
MOTOR DRIVE
REC/PB
SLOW
FF/REW
REFERENCE OSCILLATION FREQUENCY
V.LOCK
SWITCHING POINT
CYL SERVO
CYL FG
CAPST SERVO
C.FG
REF 25Hz
REF 25Hz COUNTER
CYL.FG 200
CTL REC AMP
ASBL MM
V. DRIVE MM
STILL MM
TACH MM
CYL ADD
OSC
INJ
V.DRIVE SEP
CYL SPEED DET
CYL PHASE DET
REF 25Hz COUNTER
PWM COUNTER
TRACK.MM
CAPST. PHASE DET
SPEED DET
SEARCH/QUICK
CAPST. ADD
FINE STILL
F.ADV
FINE SLOW
CAPST SPEED DET
PAUSE/F. ADV
CAPST ADD
C.FG AMP
1/2 Vcc
1/4
PLAY
1/2 Vcc
PB PAUSE
SEARCH
K607
K627
Q614 2SC458
Q613 2SD1266-PQ
Q615 2SA673
Q616 2SC458
ZD603 HZ18-3
ZD602 HZ7B2
ZD601 HZ7A1
Q626 2SC458
Q627 2SC458
QR601 RTIN441S
QR602 RTIN441S
QR605 RTIN441S
QR628 RTIN441S
D652 1SS133
D653 1SS119
D609 1SS119
D610 1SS119
D651 1SS119
D619 1SS119
D620 1SS119
D622 1SS119
D628 1SS119
D629 1SS119
D623 1SS119
D631 1SS119
D640 1SS119
D645 1SS119
PG604
1 A18V
2 GND(M)
5 12V
6 5V
7 GND
8 A12V
9 +32V
10 -30V
11 A9V
To REGULATOR CN852
3B SELECT "Hi"
To AUDIO/REAR JACK
PG402
5 SELECT "Hi"
4 A9V
3 A5V
2 -30V
1 +32V
To V.S TUNING PG801
5B A5V
6B A12V
To AUDIO/REAR JACK
PG603
5 REVERSE
4 FORWARD
3 GND (M)
2 C. FG(-)
1 C. FG(+)
To CAPSTAN MOTOR PG03
18A CAPST. 1
17A CAPST. 2
16A CAPST. 3
30A A5V
20A GND
19A GND (M)
To SYSTEM CONTROL
5 4.43MHz
To Y/CHROMA
27A PAUSE
29A F. ADV
26A PLAY
13A REVERSE
4A CAPST. FG
28A SEARCH
To SYSTEM CONTROL
NOTE : RTIN441S
47K
47K
PB CAPSTAN MOTOR
WAVEFORM
REC/PB CYLINDER MOTOR
REC CYLINDER MOTOR
PB CYLINDER MOTOR
WAVEFORM
4
5
6
7
8
9
10
11

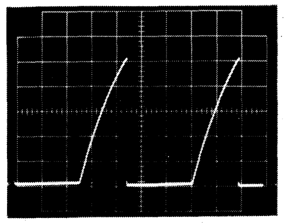

MAIN (SERVO) P. C. B
※ ONE VOLTAGE: PB OR REC MODE.
TWO VOLTAGES: PB AND (REC) MODES.
IC601
M54898P
IC602
M54648L-B
FWD/REV/STOP/BRAKE CONTROL
MODE DET
SPEED CONTROL
MOTOR DRIVE
REC/PB
SLOW
FF/REW
GND
+B
REFERENCE OSCILLATION FREQUENCY
V.LOCK
SWITCHING POINT
CYL SERVO
CYL FG
CAPST SERVO
C.FG
<1/2 Vcc>
<PLAY>
<PB PAUSE>
<SEARCH>
REF 25Hz
REF25Hz COUNTER
CYL.FG 200
CTL REC AMP
ASBL MM
V. DRIVE MM
STILL MM
TACH MM
CYL ADD
OSC
INJ
V.DRIVE SEP
CYL SPEED DET
CYL PHASE DET
REF 25Hz COUNTER
PWM COUNTER
TRACK.MM
CAPST. PHASE DET
SPEED DET
SEARCH/QUICK
CAPST. ADD
FINE STILL
FINE SLOW
F. ADV
CAPST SPEED DET
PAUSE/F. ADV
CAPST ADD
C.FG AMP
1/2 Vcc
1/4
S1
S3
S4
REC
PB
REV
SP
K607
K627
Q613
2SD1266-PQ
Q614
2SC458
Q615
2SA673
Q616
2SC458
ZD603
HZ18-3
ZD602
HZ7B2
ZD601
HZ7A1
D609
1SS119
D610
1SS119
D652
1SS133
D653
1SS119
D622
1SS119
QR628
RTIN441S
D640
1SS119
D645
1SS119
D631
1SS119
D651
1SS119
D619
1SS119
D620
1SS119
QR605
RTIN441S
QR602
RTIN441S
Q612
2SC458
D629
1SS119
D628
1SS119
Q626
2SC458
Q627
2SC458
D623
1SS119
QR601
RTIN441S
PG604
A 18V
GND (M)
12V
5V
GND
A 12V
+32V
-30V
A9V
To REGULATOR CN852
SELECT "Hi"
To AUDIO/REAR JACK
PG402
SELECT "Hi"
A9V
A5V
-30V
+32V
To V.S TUNING PG801
A5V
A12V
To AUDIO/REAR JACK
PG603
REVERSE
FORWARD
GND (M)
C. FG (-)
C. FG (+)
To CAPSTAN MOTOR PG03
CAPST. 1
CAPST. 2
CAPST. 3
A5V
GND
GND (M)
To SYSTEM CONTROL
4.43MHz
To Y/CHROMA
PAUSE
F. ADV
PLAY
REVERSE
CAPST. FG
SEARCH
To SYSTEM CONTROL
NOTE: RTIN441S
47K
47K

PB CAPSTAN MOTOR ← ○ WAVEFORM — REC/PB CYLINDER MOTOR — REC CYLINDER MOTOR — PB CYLINDER MOTOR — ○ WAVEFORM

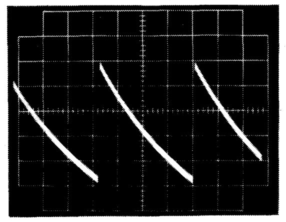
SERVO CIRCUIT WAVEFORMS (WELLENFORM)

[IC601] (REC: Colour bar Video in/PB: Alignment tape)

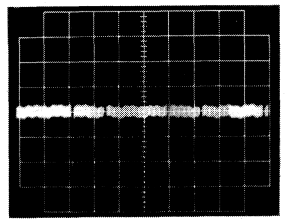
① PIN2 REC/PB
0.5V/10ms. div.



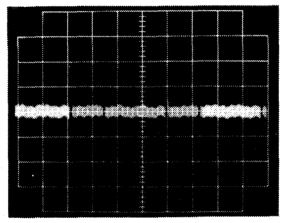
② PIN3 REC/PB
0.1V/10ms. div.



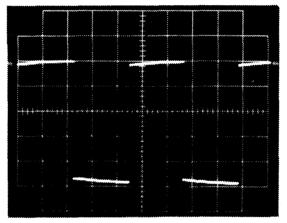
③ PIN4 REC/PB
50mV/10ms. div.



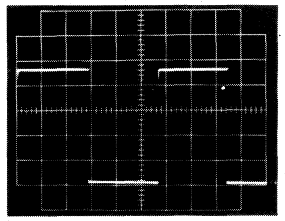
④ PIN5 REC/PB
50mV/10ms. div.



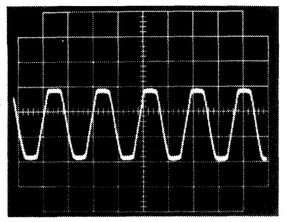
⑤ PIN11 REC/PB
1V/0.2ms. div.



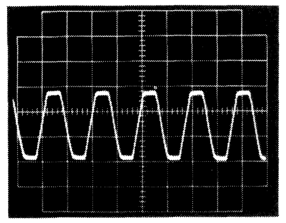
⑥ PIN22 REC/PB
1V/20μs. div.



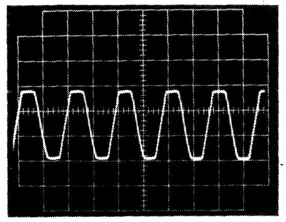
⑦ PIN28 REC/PB
0.5V/1ms. div.



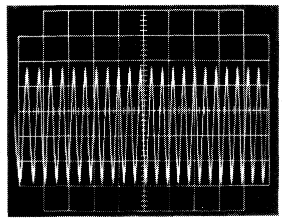
⑧ PIN29 REC/PB
0.5V/1ms. div.



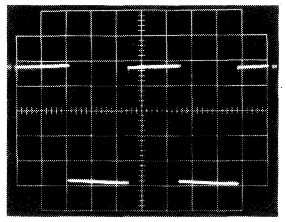
⑨ PIN30 REC/PB
1V/1ms. div.



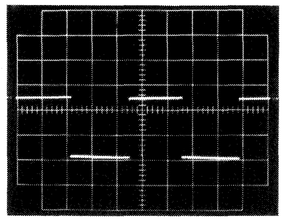
⑩ PIN32 REC/PB
50mV/0.5μs. div.



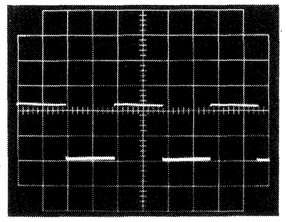
⑪ PIN42 REC/PB
1V/0.1ms. div.



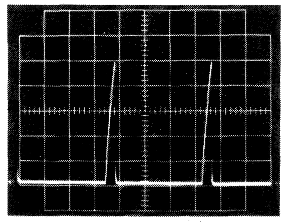
⑫ PIN43 REC/PB
2V/0.1ms. div.



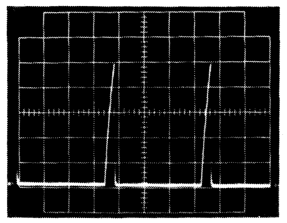
⑬ PIN44 REC/PB
2V/10ms. div.



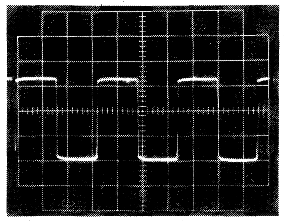
⑭ PIN45 REC/PB
0.5V/5ms. div.



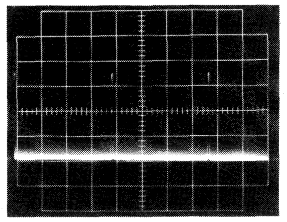
⑮ PIN46 REC/PB
0.5V/5ms. div.



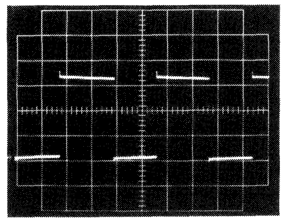
⑯ PIN50 REC/PB
1V/1ms. div.



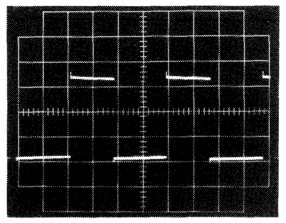
⑰ PIN53 REC/PB
1V/5ms. div.



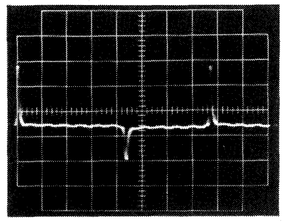
⑱ PIN59 REC
1V/10ms. div.



⑲ PIN60 REC
1V/10ms. div.

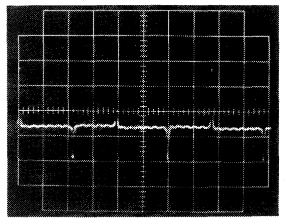


⑳ PIN62 PB
1V/5ms. div.



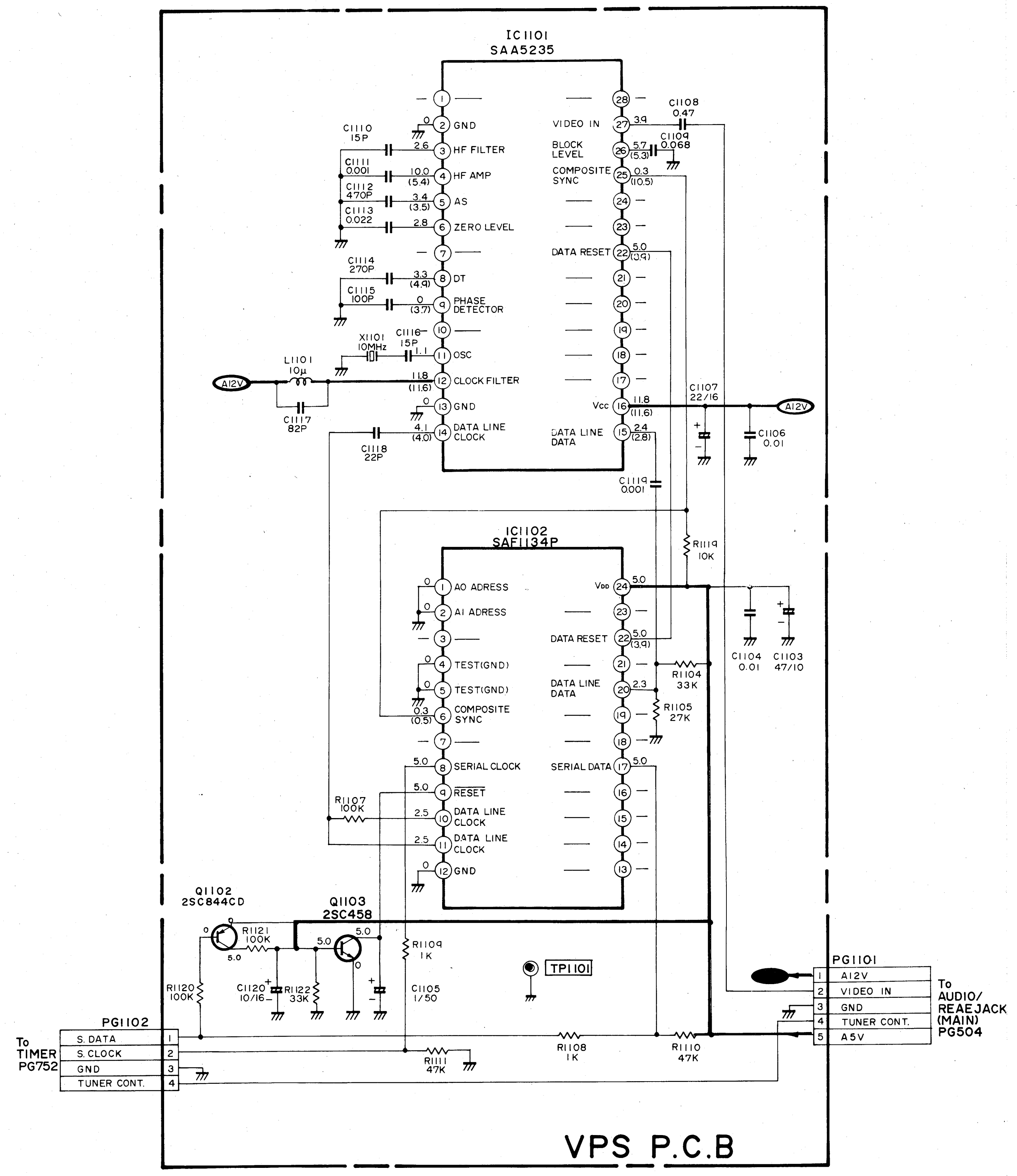
[IC601]

㉑ PIN63 PB
1V/10ms. div.



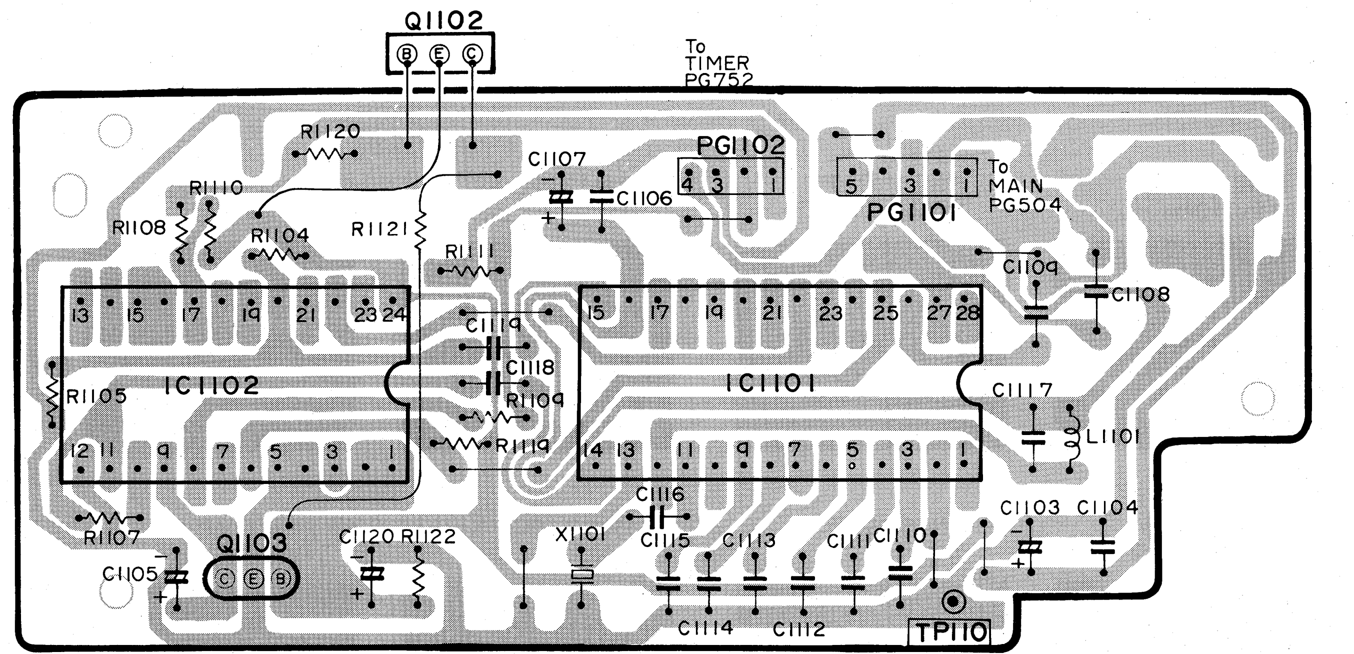
SCHEMATIC DIAGRAM	PAGE VT-125E/VT-135E
INTERNAL WIRING DIAGRAM	5-2 /5-2
IF UNIT	5-4 /5-4
TUNER UNIT	5-6 /5-6
V-S TUNING	5-10/5-10
Y/EQUALIZER	5-34/5-34
VPS	5-40/5-40
TIMER/OPERATION SWITCH	5-6 /5-6
SYSTEM CONTROL	5-45/5-54
REMOTE CONTROL	5-16/5-16
AUDIO/REAR JACK	5-42/5-57
RF CONVERTER	5-22/5-22
PREAMP	5-29/5-29
SERVO	5-35/5-62
Y/CHROMA	5-23/5-23
REGULATOR/CYLINDER MOTOR DRIVE	5-18/5-18

VPS (VIDEO PROGRAMME SYSTEM)


IC1101
SAA5235
GND
HF FILTER
HF AMP
AS
ZERO LEVEL
DT
PHASE DETECTOR
OSC
CLOCK FILTER
GND
DATA LINE CLOCK
VIDEO IN
BLOCK LEVEL
COMPOSITE SYNC
DATA RESET
Vcc
DATA LINE DATA
C1110 15P
C1111 0.001
C1112 470P
C1113 0.022
C1114 270P
C1115 100P
X1101 10MHz
C1116 15P
L1101 10μ
A12V
C1117 82P
C1118 22P
C1108 0.47
C1109 0.068
C1107 22/16
C1106 0.01
C1119 0.001
IC1102
SAF1134P
A0 ADRESS
A1 ADRESS
TEST(GND)
TEST(GND)
COMPOSITE SYNC
SERIAL CLOCK
RESET
DATA LINE CLOCK
DATA LINE CLOCK
GND
VDD
DATA RESET
DATA LINE DATA
SERIAL DATA
R1119 10K
R1104 33K
R1105 27K
C1104 0.01
C1103 47/10
R1107 100K
Q1102 2SC844CD
Q1103 2SC458
R1121 100K
R1120 100K
C1120 10/16
R1122 33K
R1109 1K
C1105 1/50
TP1101
PG1101
A12V
VIDEO IN
GND
TUNER CONT.
A5V
To AUDIO/ REAEJACK (MAIN) PG504
PG1102
S.DATA
S.CLOCK
GND
TUNER CONT.
To TIMER PG752
R1111 47K
R1108 1K
R1110 47K
VPS P.C.B

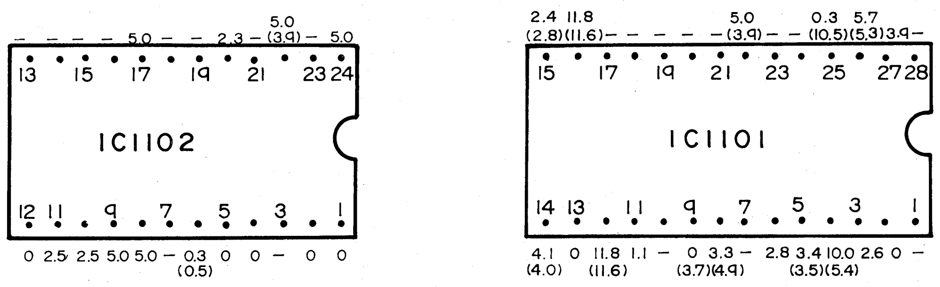
ONE VOLTAGE: PB OR REC MODE, TWO VOLTAGES: PB AND(REC) MODE.

VT-125E (VPS/VPSK) VPS P.C. BOARD

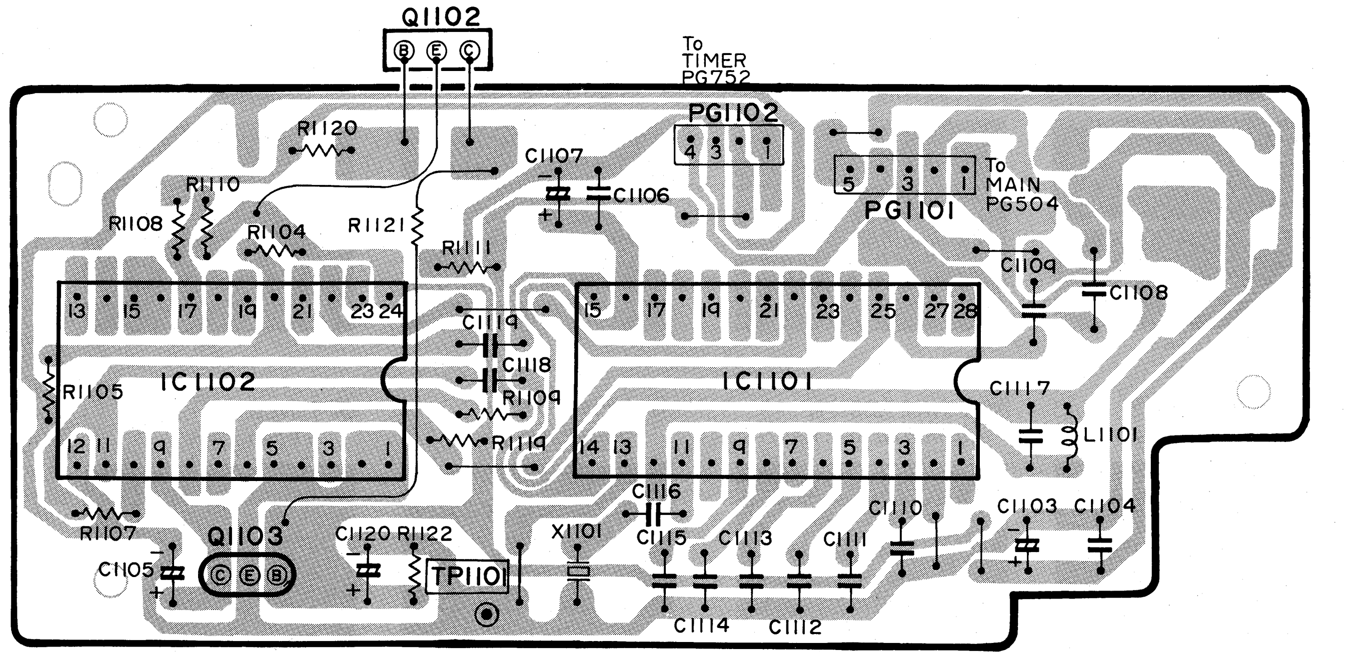

Q1102
B E C
To TIMER PG752
R1120
R1110
R1108
R1104
R1121
R1111
C1107
C1106
PG1102
PG1101
To MAIN PG504
C1109
C1108
IC1102
IC1101
R1105
C1119
C1118
R1109
R1119
C1117
L1101
C1116
R1107
Q1103
C E B
C1105
C1120
R1122
X1101
C1115
C1113
C1111
C1110
C1103
C1104
C1114
C1112
TP110

VPS P.C.B

※ ONE VOLTAGE : PB OR REC MODE, TWO VOLTAGES: PB AND (REC) MODE.


5.0
5.0 2.3 (3.9) 5.0
IC1102
0 2.5 2.5 5.0 5.0 0.3 0 0 0 0
(0.5)
2.4 11.8 5.0 0.3 5.7
(2.8)(11.6) (3.9) (10.5)(5.3)3.9
IC1101
4.1 0 11.8 1.1 0 3.3 2.8 3.4 10.0 2.6 0
(4.0) (11.6) (3.7)(4.9) (3.5)(5.4)

VT-135E (VPS) VPS P.C. BOARD

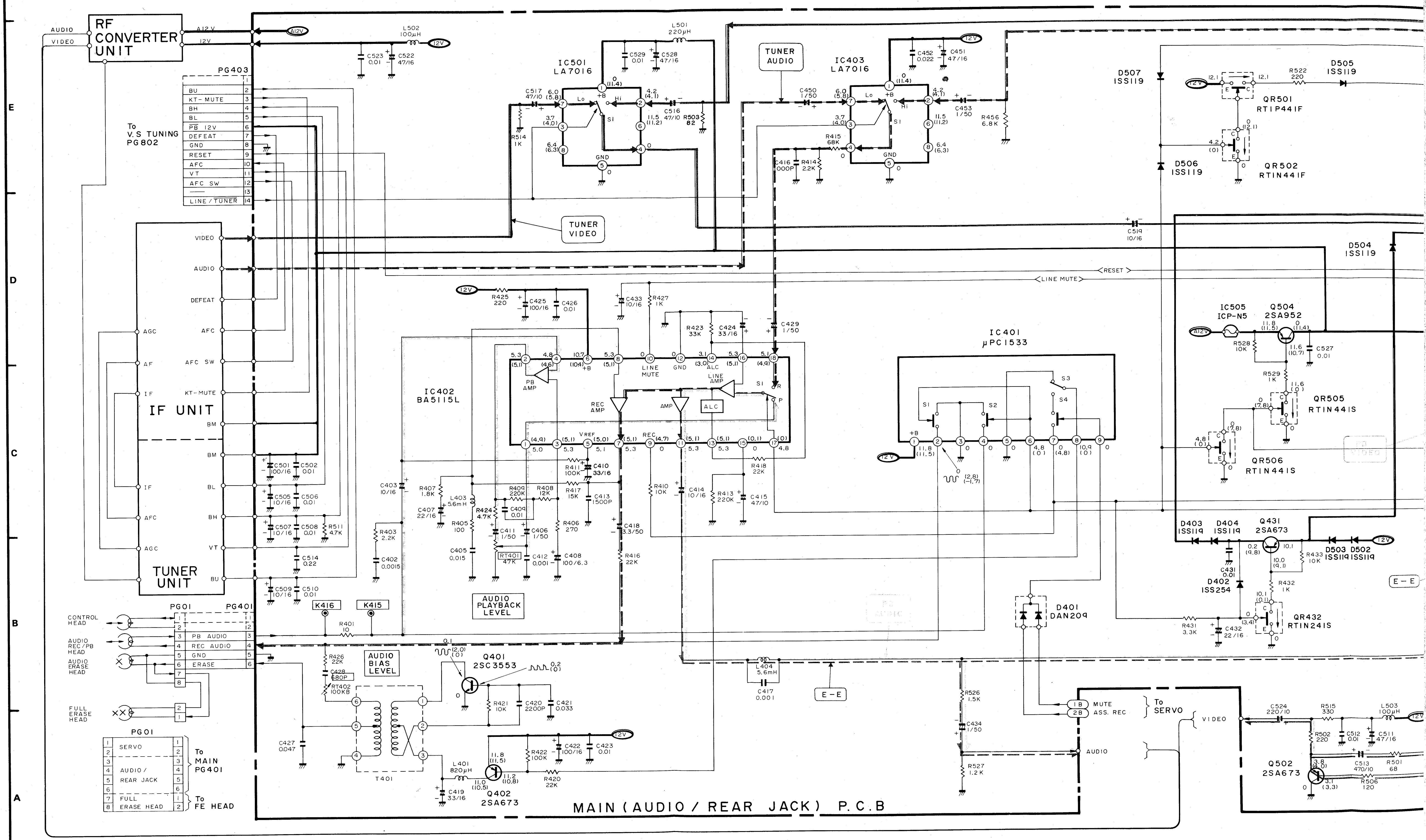

Q1102
B E C
To TIMER PG752
PG1102
R1120
R1110
R1108
R1104
R1121
R1111
C1107
C1106
PG1101
To MAIN PG504
C1109
C1108
IC1102
IC1101
R1105
C1119
C1118
R1109
R1119
C1117
L1101
C1116
R1107
Q1103
C E B
C1105
C1120
R1122
TP1101
X1101
C1115
C1113
C1111
C1110
C1103
C1104
C1114
C1112

VPS P.C.B

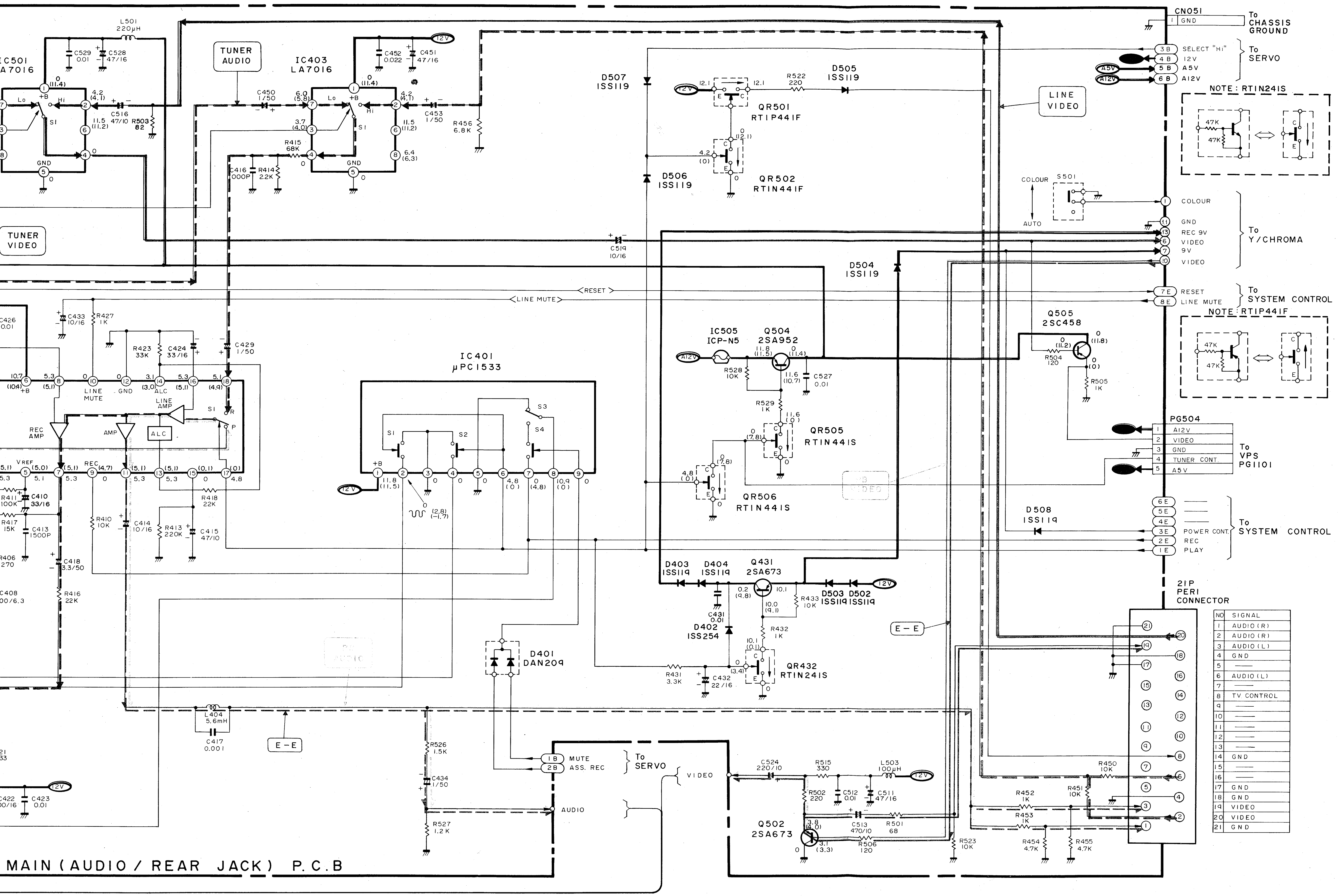
※ ONE VOLTAGE : PB OR REC MODE, TWO VOLTAGES: PB AND (REC) MODE.

AUDIO/REAR JACK (AUDIO-BUCHSE)

VT-125E (VPS/VPSK)


RF CONVERTER UNIT
AUDIO
VIDEO
A12V
12V
L502 100μH
C523 0.01
C522 47/16
PG403
BU
KT-MUTE
BH
BL
PB 12V
DEFEAT
GND
RESET
AFC
VT
AFC SW
LINE / TUNER
To V.S TUNING PG802
IC501 LA7016
C517 47/10
R514 1K
C529 0.01
C528 47/16
L501 220μH
C516 47/10
R503 82
TUNER VIDEO
TUNER AUDIO
IC403 LA7016
C450 1/50
R415 68K
C416 1000P
R414 2.2K
C452 0.022
C451 47/16
C453 1/50
R456 6.8K
D507 1SS119
D506 1SS119
R522 220
D505 1SS119
QR501 RT1P441F
QR502 RT1N441F
C514 10/16
D504 1SS119
RESET
LINE MUTE
IF UNIT
TUNER UNIT
VIDEO
AUDIO
DEFEAT
AGC
AF
IF
AFC
AFC SW
KT-MUTE
BM
BL
BH
VT
BU
C501 100/16
C502 0.01
C505 10/16
C506 0.01
C507 10/16
C508 0.01
R511 4.7K
C514 0.22
C509 10/16
C510 0.01
R425 220
C425 100/16
C426 0.01
C433 10/16
R427 1K
R423 33K
C424 33/16
C429 1/50
IC402 BA5115L
PB AMP
REC AMP
AMP
ALC
LINE AMP
LINE MUTE
GND
VREF
REC
C403 10/16
R407 1.8K
L403 5.6mH
C407 22/16
R405 100
R424 4.7K
R409 220K
R408 12K
C409 0.01
R411 100K
C410 33/16
R417 15K
C413 1500P
C411 1/50
C406 1/50
R406 270
RT401 47K
C412 0.001
C408 100/6.3
C418 3.3/50
R416 22K
R410 10K
C414 10/16
R413 220K
C415 47/10
R418 22K
R403 2.2K
C402 0.0015
C405 0.015
AUDIO PLAYBACK LEVEL
IC401 μPC1533
S1
S2
S3
S4
IC505 ICP-N5
Q504 2SA952
R528 10K
C527 0.01
R529 1K
QR505 RTIN441S
QR506 RTIN441S
D403 1SS119
D404 1SS119
Q431 2SA673
D503 1SS119
D502 1SS119
C431 0.01
R433 10K
D402 1SS254
R432 1K
R431 3.3K
C432 22/16
QR432 RTIN241S
D401 DAN209
E-E
K416
K415
R401 10
PG01
PG401
CONTROL HEAD
AUDIO REC/PB HEAD
AUDIO ERASE HEAD
FULL ERASE HEAD
PB AUDIO
REC AUDIO
GND
ERASE
R426 22K
C428 680P
RT402 100KB
AUDIO BIAS LEVEL
Q401 2SC3553
R421 10K
C420 2200P
C421 0.033
C427 0.047
T401
L401 820μH
C419 33/16
Q402 2SA673
R422 100K
C422 100/16
C423 0.01
R420 22K
L404 5.6mH
C417 0.001
R526 1.5K
C434 1/50
R527 1.2K
MUTE
ASS. REC
To SERVO
AUDIO
VIDEO
C524 220/10
R515 330
L503 100μH
R502 220
C512 0.01
C511 47/16
C513 470/10
R501 68
R506 120
Q502 2SA673
PG01
SERVO
AUDIO / REAR JACK
FULL ERASE HEAD
To MAIN PG401
To FE HEAD
MAIN (AUDIO / REAR JACK) P.C.B
E
D
C
B
A

※ ONE VOLTAGE : PB OR REC MODE, TWO VOLTAGES : PB AND (REC) MODES.

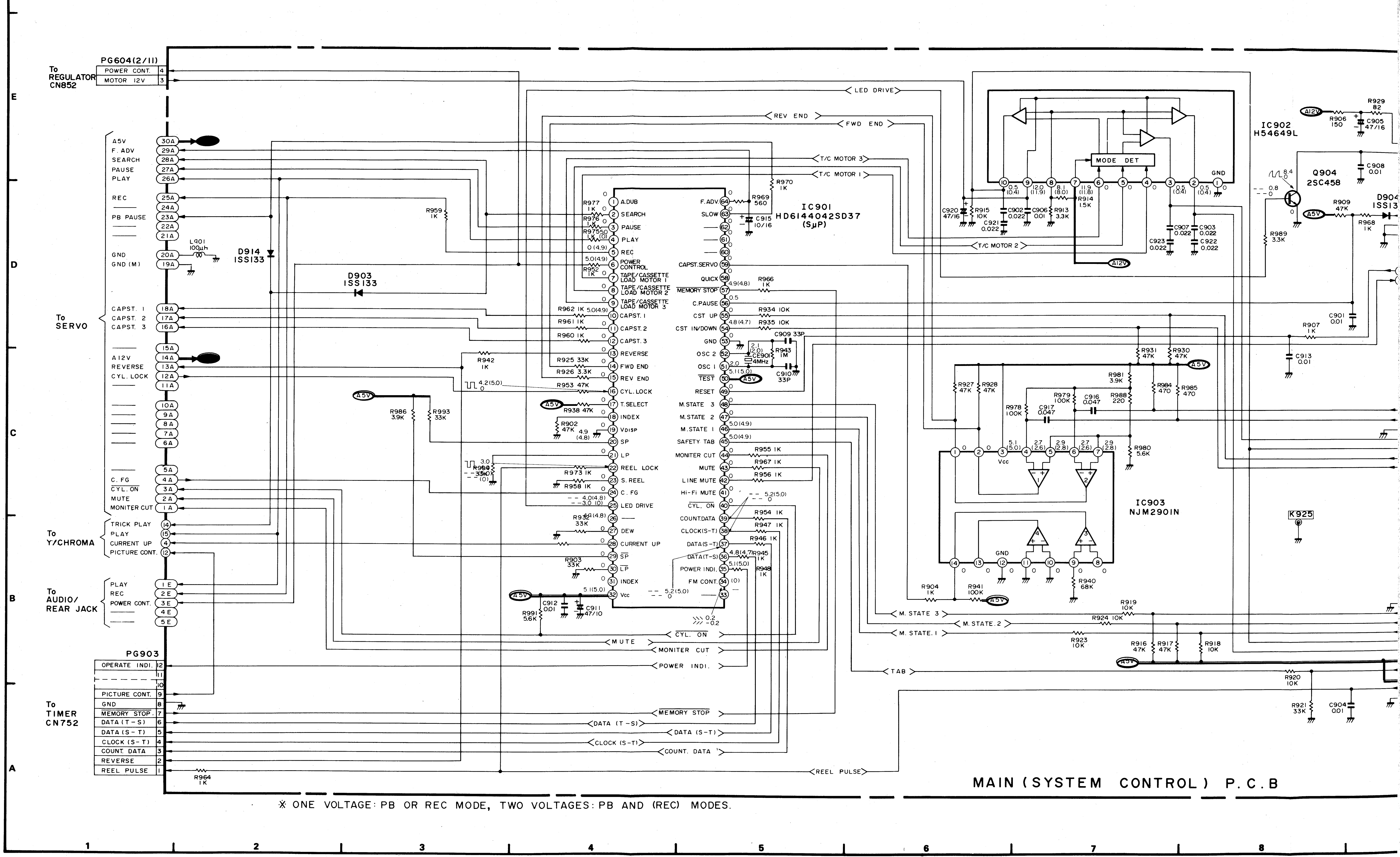

MAIN (AUDIO / REAR JACK) P.C.B
IC501
LA7016
L501
220μH
C529
0.01
C528
47/16
C516
47/10
R503
82
TUNER AUDIO
TUNER VIDEO
IC403
LA7016
C452
0.022
C451
47/16
C450
1/50
C453
1/50
R456
6.8K
R415
68K
C416
000P
R414
2.2K
C519
10/16
D507
ISS119
D506
ISS119
QR501
RT1P441F
QR502
RT1N441F
R522
220
D505
ISS119
LINE VIDEO
CN051
GND
To CHASSIS GROUND
SELECT "Hi"
12V
A5V
A12V
To SERVO
NOTE : RTIN241S
47K
COLOUR
S501
AUTO
COLOUR
GND
REC 9V
VIDEO
9V
VIDEO
To Y/CHROMA
RESET
LINE MUTE
To SYSTEM CONTROL
NOTE : RTIP441F
D504
ISS119
Q505
2SC458
R504
120
R505
1K
IC505
ICP-N5
Q504
2SA952
R528
10K
C527
0.01
R529
1K
QR505
RTIN441S
QR506
RTIN441S
IC401
μPC1533
S1
S2
S3
S4
C433
10/16
R427
1K
C426
0.01
R423
33K
C424
33/16
C429
1/50
LINE MUTE
GND
ALC
LINE AMP
REC AMP
AMP
VREF
REC
R411
100K
C410
33/16
R417
15K
C413
1500P
R406
270
C418
3.3/50
R416
22K
C408
R410
10K
C414
10/16
R413
220K
C415
47/10
R418
22K
PG504
A12V
VIDEO
GND
TUNER CONT
A5V
To VPS PG1101
D508
ISS119
POWER CONT.
REC
PLAY
To SYSTEM CONTROL
D403
ISS119
D404
ISS119
Q431
2SA673
D503
ISS119
D502
ISS119
R433
10K
C431
0.01
D402
ISS254
R432
1K
QR432
RTIN241S
R431
3.3K
C432
22/16
D401
DAN209
E-E
21P PERI CONNECTOR
L404
5.6mH
C417
0.001
MUTE
ASS. REC
To SERVO
VIDEO
AUDIO
R526
1.5K
C434
1/50
R527
1.2K
C524
220/10
R515
330
L503
100μH
R502
220
C512
0.01
C511
47/16
C513
470/10
R501
68
Q502
2SA673
R506
120
R523
10K
R452
1K
R453
1K
R451
10K
R450
10K
R454
4.7K
R455
4.7K
C422
C423
0.01
12V

NO	SIGNAL
1	AUDIO (R)
2	AUDIO (R)
3	AUDIO (L)
4	GND
5	——
6	AUDIO (L)
7	——
8	TV CONTROL
9	——
10	——
11	——
12	——
13	——
14	GND
15	——
16	——
17	GND
18	GND
19	VIDEO
20	VIDEO
21	GND

MODE, TWO VOLTAGES : PB AND (REC) MODES.

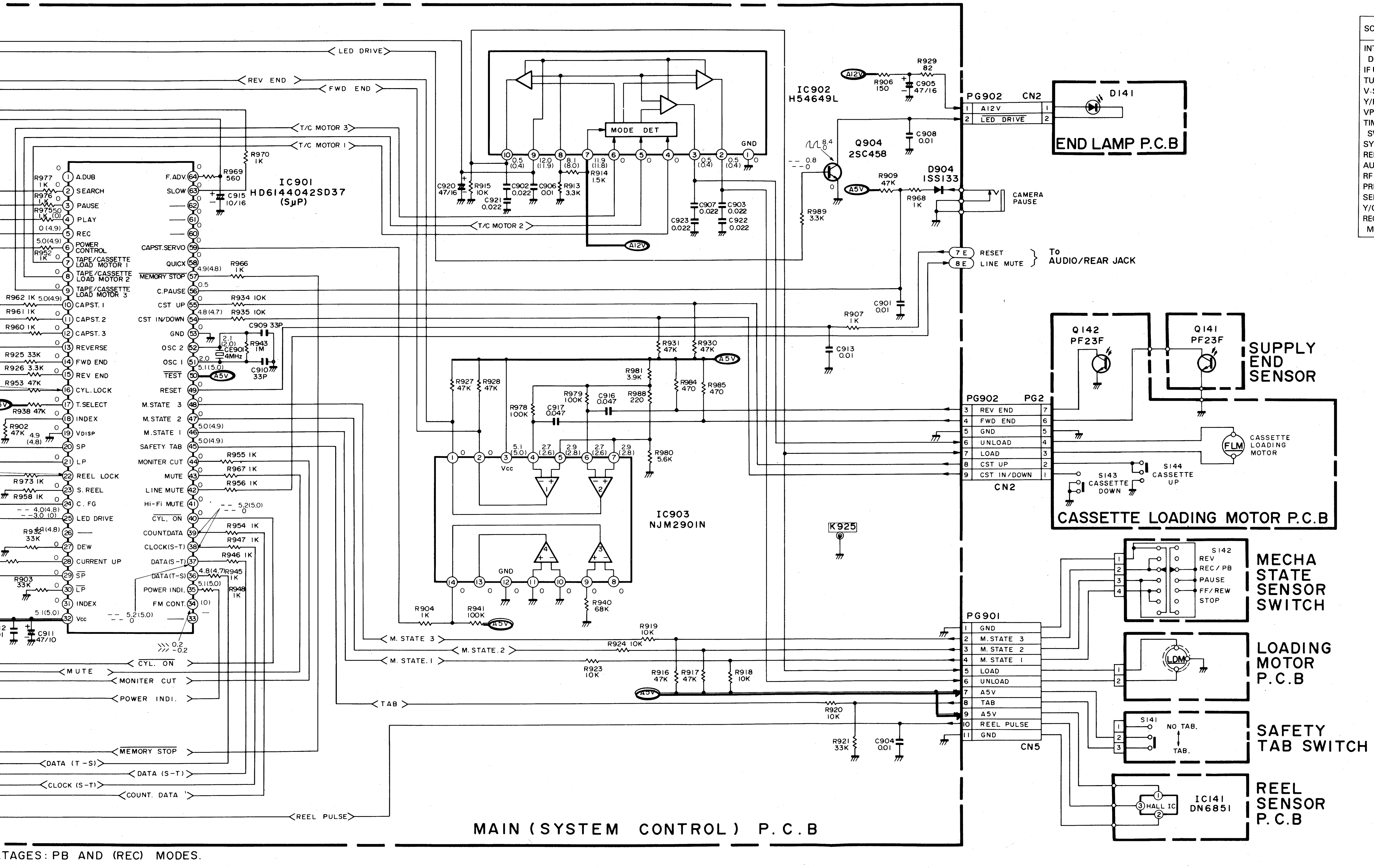
SCHEMATIC DIAGRAM	PAGE VT-125E/VT-135E
INTERNAL WIRING DIAGRAM	5-2 /5-2
IF UNIT	5-4 /5-4
TUNER UNIT	5-6 /5-6
V·S TUNING	5-10/5-10
Y/EQUALIZER	5-34/5-34
VPS	5-40/5-40
TIMER/OPERATION SWITCH	5-6 /5-6
SYSTEM CONTROL	5-45/5-54
REMOTE CONTROL	5-16/5-16
AUDIO/REAR JACK	5-42/5-57
RF CONVERTER	5-22/5-22
PREAMP	5-29/5-29
SERVO	5-35/5-62
Y/CHROMA	5-23/5-23
REGULATOR/CYLINDER MOTOR DRIVE	5-18/5-18

SYSTEM CONTROL (SYSTEMREGELUNG) VT-125E (VPS/VPSK)


To REGULATOR CN852
PG604(2/11)
POWER CONT. 4
MOTOR 12V 3
A5V 30A
F. ADV 29A
SEARCH 28A
PAUSE 27A
PLAY 26A
REC 25A
24A
PB PAUSE 23A
22A
21A
GND 20A
GND (M) 19A
L901 100μH
D914 ISS133
D903 ISS133
To SERVO
CAPST. 1 18A
CAPST. 2 17A
CAPST. 3 16A
15A
A12V 14A
REVERSE 13A
CYL. LOCK 12A
11A
C. FG 4A
CYL. ON 3A
MUTE 2A
MONITER CUT 1A
To Y/CHROMA
TRICK PLAY 14
PLAY 15
CURRENT UP 4
PICTURE CONT. 12
To AUDIO/ REAR JACK
PLAY 1E
REC 2E
POWER CONT. 3E
4E
5E
PG903
To TIMER CN752
OPERATE INDI. 12
11
10
PICTURE CONT. 9
GND 8
MEMORY STOP 7
DATA (T-S) 6
DATA (S-T) 5
CLOCK (S-T) 4
COUNT. DATA 3
REVERSE 2
REEL PULSE 1
R964 1K
IC901 HD6144042SD37 (SμP)
A.DUB, SEARCH, PAUSE, PLAY, REC, POWER CONTROL, TAPE/CASSETTE LOAD MOTOR 1, TAPE/CASSETTE LOAD MOTOR 2, TAPE/CASSETTE LOAD MOTOR 3, CAPST. 1, CAPST. 2, CAPST. 3, REVERSE, FWD END, REV END, CYL. LOCK, T. SELECT, INDEX, VDISP, SP, LP, REEL LOCK, S. REEL, C. FG, LED DRIVE, DEW, CURRENT UP, SP, LP, INDEX, Vcc
F. ADV, SLOW, CAPST. SERVO, QUICK, MEMORY STOP, C. PAUSE, CST UP, CST IN/DOWN, GND, OSC 2, OSC 1, TEST, RESET, M. STATE 3, M. STATE 2, M. STATE 1, SAFETY TAB, MONITER CUT, MUTE, LINE MUTE, Hi-Fi MUTE, CYL. ON, COUNT. DATA, CLOCK (S-T), DATA (S-T), DATA (T-S), POWER INDI., FM CONT.
CE901 4MHz
LED DRIVE
REV END
FWD END
T/C MOTOR 3
T/C MOTOR 1
T/C MOTOR 2
MODE DET
GND
A12V
IC902 H54649L
Q904 2SC458
D904 ISS13
IC903 NJM2901N
K925
A5V
M. STATE 3
M. STATE 2
M. STATE 1
CYL. ON
MUTE
MONITER CUT
POWER INDI.
TAB
MEMORY STOP
DATA (T-S)
DATA (S-T)
CLOCK (S-T)
COUNT. DATA
REEL PULSE
MAIN (SYSTEM CONTROL) P.C.B
1 2 3 4 5 6 7 8
E D C B A

※ ONE VOLTAGE: PB OR REC MODE, TWO VOLTAGES: PB AND (REC) MODES.

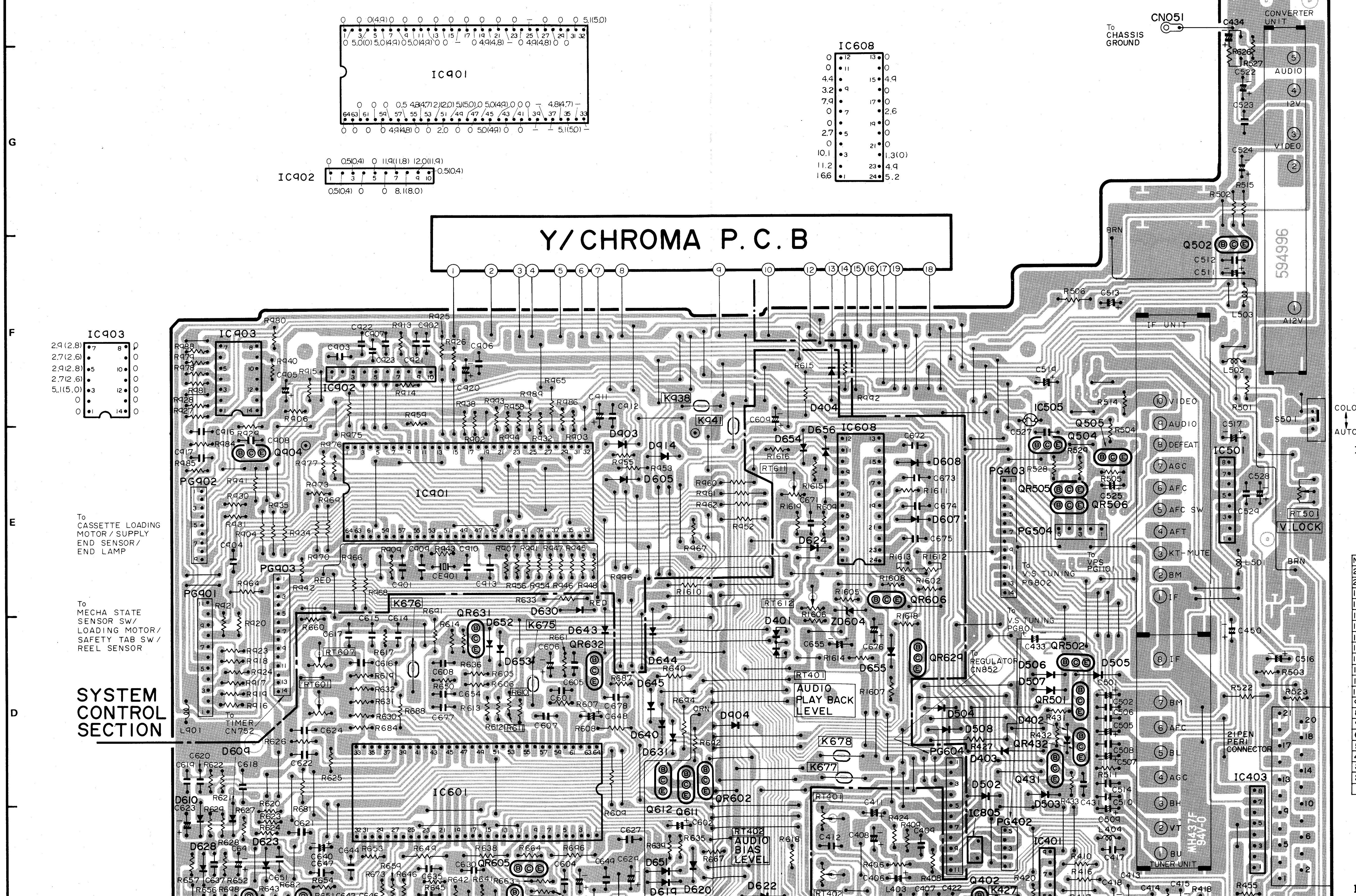
SCHEMATIC DIAGRAM	PAGE VT-125E/VT-135E
INTERNAL WIRING DIAGRAM	5-2 /5-2
IF UNIT	5-4 /5-4
TUNER UNIT	5-6 /5-6
V-S TUNING	5-10/5-10
Y/EQUALIZER	5-34/5-34
VPS	5-40/5-40
TIMER/OPERATION SWITCH	5-6 /5-6
SYSTEM CONTROL	5-45/5-54
REMOTE CONTROL	5-16/5-16
AUDIO/REAR JACK	5-42/5-57
RF CONVERTER	5-22/5-22
PREAMP	5-29/5-29
SERVO	5-35/5-62
Y/CHROMA	5-23/5-23
REGULATOR/CYLINDER MOTOR DRIVE	5-18/5-18


MAIN (SYSTEM CONTROL) P.C.B
IC901 HD6144042SD37 (SμP)
IC902 H54649L
IC903 NJM2901N
Q904 2SC458
D904 1SS133
MODE DET
LED DRIVE
REV END
FWD END
T/C MOTOR 3
T/C MOTOR 1
T/C MOTOR 2
A12V
A5V
GND
PG902 CN2
A12V
LED DRIVE
END LAMP P.C.B
D141
CAMERA PAUSE
RESET
LINE MUTE
To AUDIO/REAR JACK
Q142 PF23F
Q141 PF23F
SUPPLY END SENSOR
PG902 PG2
REV END
FWD END
GND
UNLOAD
LOAD
CST UP
CST IN/DOWN
CN2
FLM
CASSETTE LOADING MOTOR
S144 CASSETTE UP
S143 CASSETTE DOWN
CASSETTE LOADING MOTOR P.C.B
K925
S142
REV
REC/PB
PAUSE
FF/REW
STOP
MECHA STATE SENSOR SWITCH
PG901
GND
M.STATE 3
M.STATE 2
M.STATE 1
LOAD
UNLOAD
A5V
TAB
A5V
REEL PULSE
GND
CN5
LDM
LOADING MOTOR P.C.B
S141
NO TAB.
TAB.
SAFETY TAB SWITCH
IC141 DN6851
HALL IC
REEL SENSOR P.C.B
A.DUB
SEARCH
PAUSE
PLAY
REC
POWER CONTROL
TAPE/CASSETTE LOAD MOTOR 1
TAPE/CASSETTE LOAD MOTOR 2
TAPE/CASSETTE LOAD MOTOR 3
CAPST. 1
CAPST. 2
CAPST. 3
REVERSE
FWD END
REV END
CYL. LOCK
T.SELECT
INDEX
VDISP
SP
LP
REEL LOCK
S. REEL
C. FG
LED DRIVE
DEW
CURRENT UP
SP
LP
INDEX
Vcc
F.ADV
SLOW
CAPST.SERVO
QUICK
MEMORY STOP
C.PAUSE
CST UP
CST IN/DOWN
GND
OSC 2
OSC 1
TEST
RESET
M.STATE 3
M.STATE 2
M.STATE 1
SAFETY TAB
MONITER CUT
MUTE
LINE MUTE
Hi-Fi MUTE
CYL. ON
COUNTDATA
CLOCK(S-T)
DATA(S-T)
DATA(T-S)
POWER INDI.
FM CONT.
CE901 4MHz
M. STATE 3
M. STATE 2
M. STATE 1
CYL. ON
MUTE
MONITER CUT
POWER INDI.
TAB
MEMORY STOP
DATA (T-S)
DATA (S-T)
CLOCK (S-T)
COUNT. DATA
REEL PULSE

TAGES: PB AND (REC) MODES.

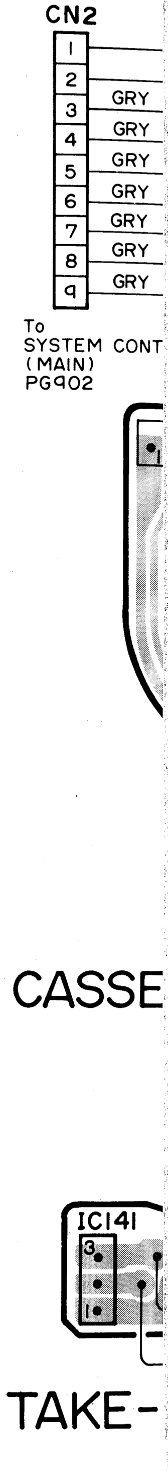
4 5 6 7 8 9 10 11

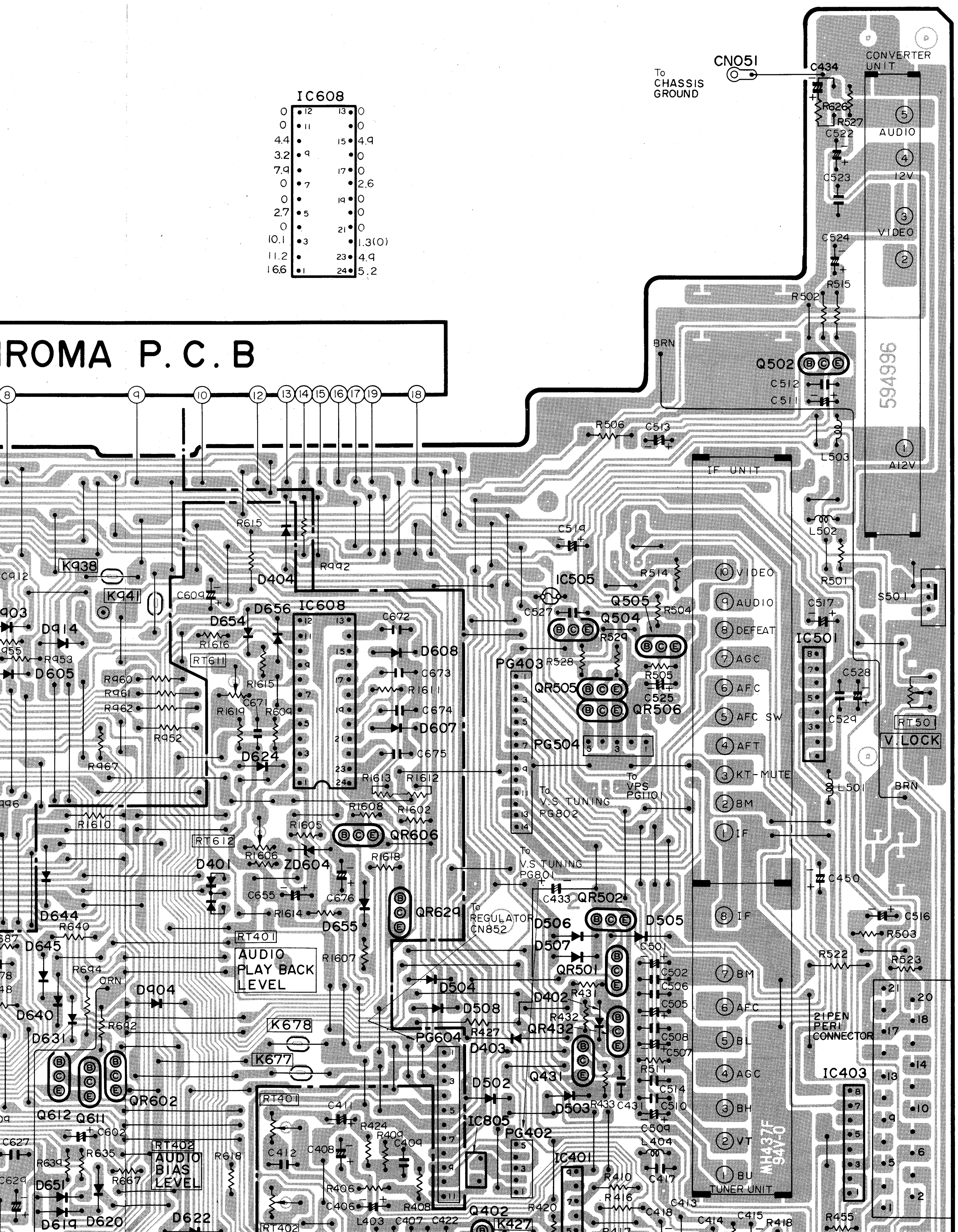
MAIN (HAUPT) VT-135E (VPS)

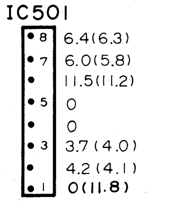

IC901
IC608
IC902
IC903
Y/CHROMA P.C.B
To CHASSIS GROUND
CN051
CONVERTER UNIT
AUDIO
12V
VIDEO
A12V
IF UNIT
TUNER UNIT
594996
COLOUR
AUTO
To CASSETTE LOADING MOTOR / SUPPLY END SENSOR / END LAMP
To MECHA STATE SENSOR SW/ LOADING MOTOR/ SAFETY TAB SW/ REEL SENSOR
SYSTEM CONTROL SECTION
To TIMER CN752
IC601
IC501
IC403
IC401
AUDIO PLAY BACK LEVEL
AUDIO BIAS LEVEL
To V.S TUNING PG802
To VPS PG1101
To V.S TUNING PG801
To REGULATOR CN852
21PIN PERI CONNECTOR
V.LOCK
IC501 6.4(6.3) 6.0(5.8) 11.5(11.2) 0 0 3.7(4.0) 4.2(4.1) 0(11.8)
IC403 6.4(6.3) 6.0(5.8) 11.5(11.2) 0 0 3.7(4.0) 4.2(4.1) 11.8

NO	SIGNAL
21	GND
20	VIDEO
19	VIDEO
18	GND
17	GND
16	
15	
14	GND
13	
12	
11	
10	
9	
8	TV CONTROL
7	
6	AUDIO(L)
5	
4	GND
3	AUDIO(L)
2	AUDIO(R)
1	AUDIO(R)

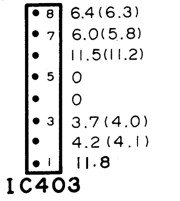
PERIPI


CN2
GRY
To SYSTEM CONT (MAIN) PG902
CASSE
IC141
TAKE-

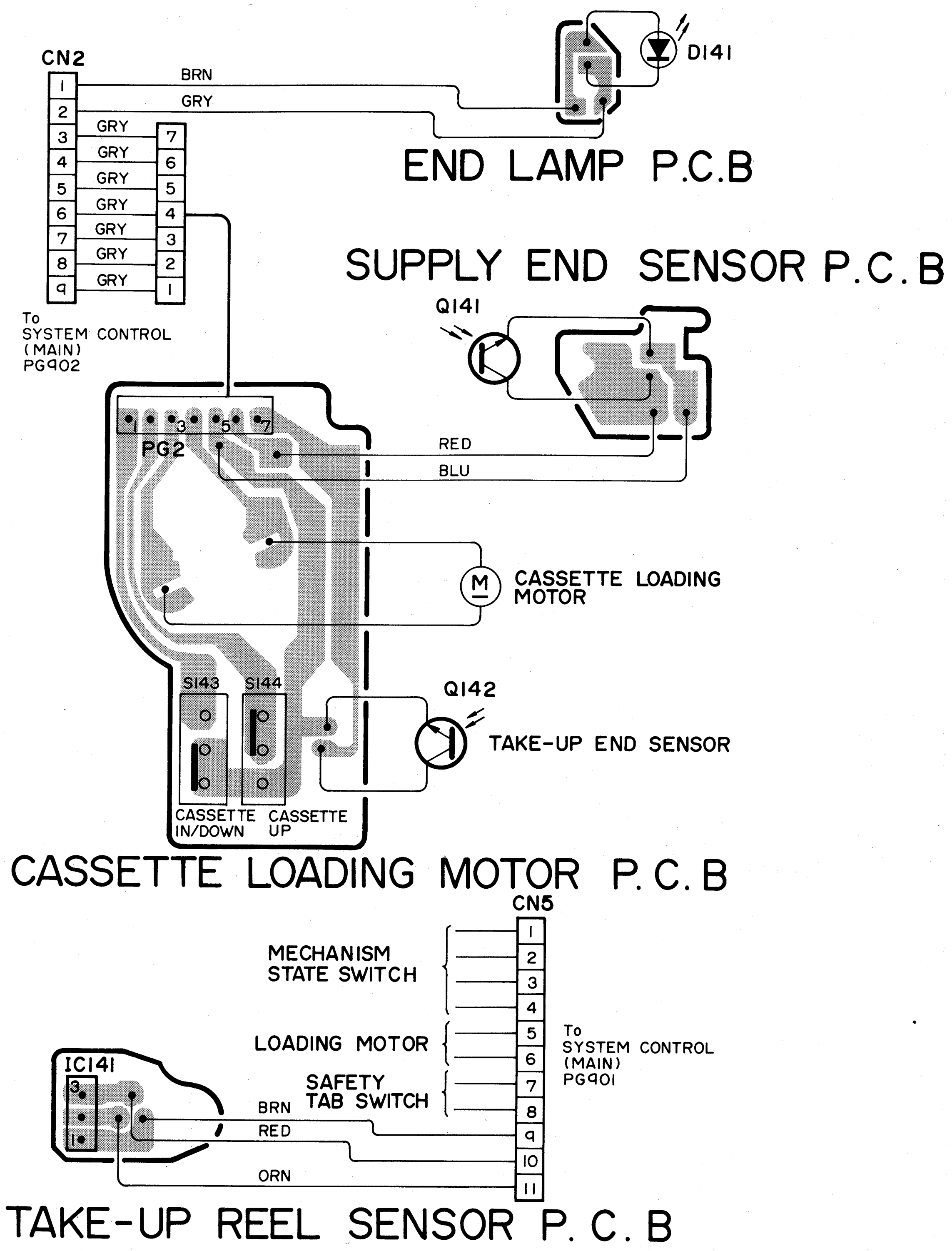

IC608
0 12
0 11
4.4
3.2 9
7.9
0 7
0
2.7 5
0
10.1 3
11.2
16.6 1
13 0
0
15 4.9
0
17 0
2.6
19 0
0
21 0
1.3(0)
23 4.9
24 5.2
CHROMA P.C.B
To CHASSIS GROUND
CN051
C434
CONVERTER UNIT
AUDIO
12V
VIDEO
A12V
594996
R526
R527
C522
C523
C524
R515
R502
Q502
C512
C511
BRN
R506
C513
L503
IF UNIT
C514
IC505
R514
Q505
R504
Q504
C527
L502
R501
C517
S501
COLOUR
AUTO
IC501
C528
C529
RT501
V.LOCK
PG403
R528
R529
QR505
QR506
R505
C525
PG504
To VPS PG1101
To V.S TUNING PG802
L501
BRN
10 VIDEO
9 AUDIO
8 DEFEAT
7 AGC
6 AFC
5 AFC SW
4 AFT
3 KT-MUTE
2 BM
1 IF
8 IF
7 BM
6 AFC
5 BL
4 AGC
3 BH
2 VT
1 BU
TUNER UNIT
MH437F 9470
C450
C516
R503
R522
R523
21PEN PERI CONNECTOR
IC403
To V.S TUNING PG801
C433
QR502
D506
D505
D507
C501
QR501
C502
C506
C505
D504
D402
R431
R432
QR432
D508
R427
PG604
D403
C508
C507
Q431
R511
D502
C514
C510
IC805
D503
R433
C431
C509
L404
PG402
IC401
R410
R416
C417
C413
R420
Q402
C414
C415
R418
R455
R417
K427
IC608
D656
D654
R1616
RT611
R1615
C671
R1619
R609
D624
C672
D608
C673
R1611
C674
D607
C675
R1613
R1612
R1608
R1602
R1605
QR606
R1618
D401
RT612
R1606
ZD604
C655
C676
R1614
QR629
D655
RT401
AUDIO PLAY BACK LEVEL
R1607
K678
K677
RT401
C411
R424
R409
C409
C412
C408
R406
C406
R408
L403
C407
C422
RT402
R622
R618
AUDIO BIAS LEVEL
R667
RT402
D622
D620
D619
D651
R639
R635
C602
Q611
Q612
QR602
C627
C629
D631
D640
D904
R632
R634
ORN
R640
D644
D645
R1610
R967
R960
R961
R962
R952
D914
D605
R953
R955
K938
K941
C609
C612
D404
R615
R992
903
8
9
10
12
13
14
15
16
17
19
18

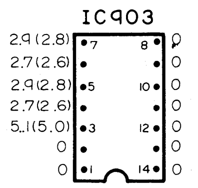

IC501
8 6.4(6.3)
7 6.0(5.8)
11.5(11.2)
5 0
0
3 3.7(4.0)
4.2(4.1)
1 0(11.8)

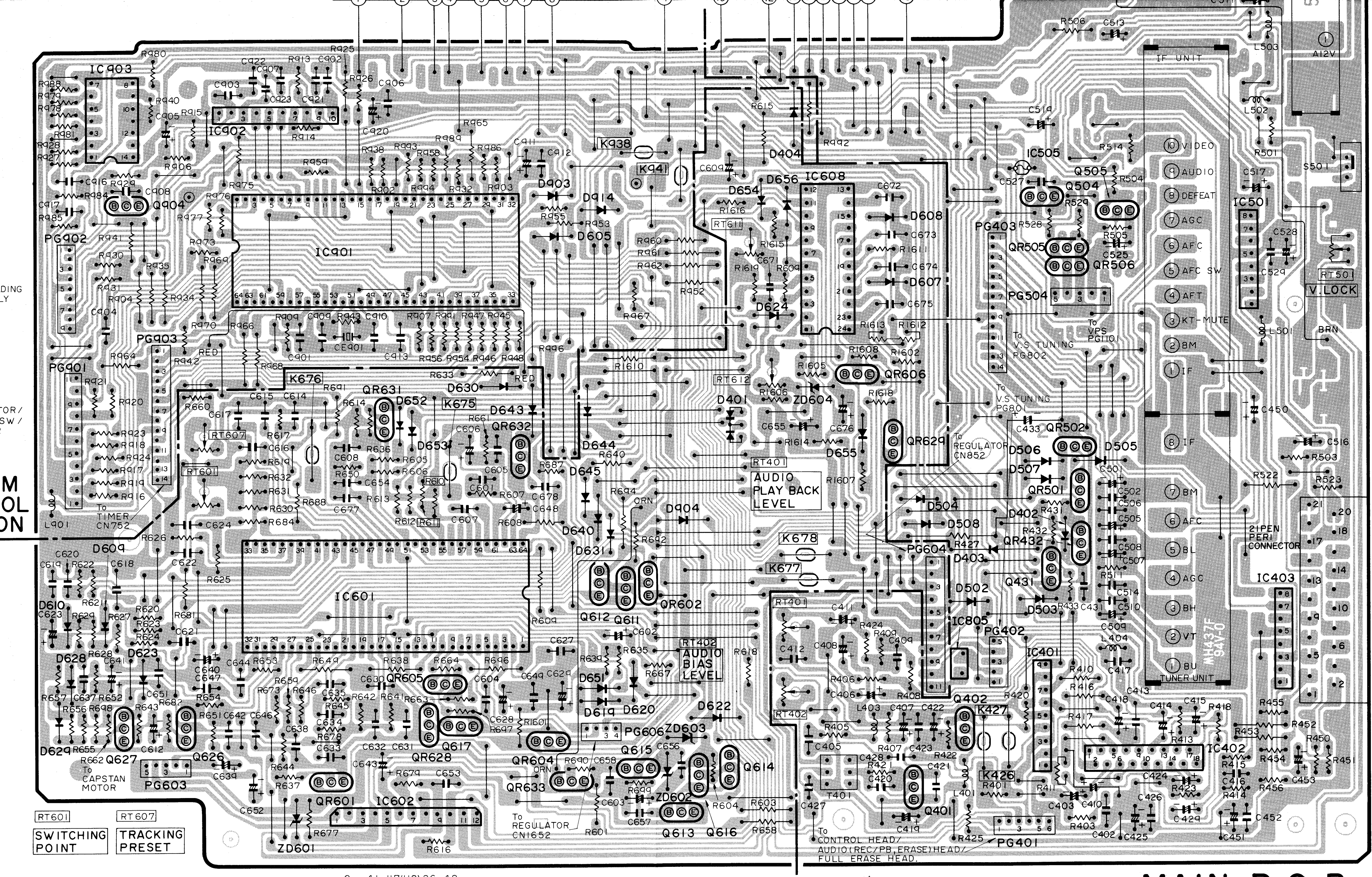
NO	SIGNAL
21	GND
20	VIDEO
19	VIDEO
18	GND
17	GND
16	———
15	———
14	GND
13	———
12	———
11	———
10	———
9	———
8	TV CONTROL
7	———
6	AUDIO(L)
5	———
4	GND
3	AUDIO(L)
2	AUDIO(R)
1	AUDIO(R)


8 6.4(6.3)
7 6.0(5.8)
11.5(11.2)
5 0
0
3 3.7(4.0)
4.2(4.1)
1 11.8
IC403

PERIPHERAL BOARD (PERIPHERIE-LEITERPLATTE)

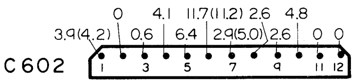

CN2
1
2
3
4
5
6
7
8
9
BRN
GRY
GRY
GRY
GRY
GRY
GRY
GRY
GRY
7
6
5
4
3
2
1
D141
END LAMP P.C.B
To SYSTEM CONTROL (MAIN) PG902
SUPPLY END SENSOR P.C.B
Q141
PG2
1
3
5
7
RED
BLU
M
CASSETTE LOADING MOTOR
S143
S144
Q142
TAKE-UP END SENSOR
CASSETTE IN/DOWN
CASSETTE UP
CASSETTE LOADING MOTOR P.C.B
CN5
1
2
3
4
5
6
7
8
9
10
11
MECHANISM STATE SWITCH
LOADING MOTOR
SAFETY TAB SWITCH
To SYSTEM CONTROL (MAIN) PG901
IC141
3
1
BRN
RED
ORN
TAKE-UP REEL SENSOR P.C.B

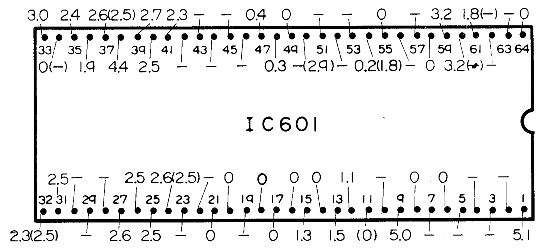

IC903
2.9(2.8)
2.7(2.6)
2.9(2.8)
2.7(2.6)
5.1(5.0)
0
0
7
5
3
1
8
10
12
14
0
0
0
0
0
0
0


To CASSETTE LOADING MOTOR / SUPPLY END SENSOR / END LAMP
To MECHA STATE SENSOR SW / LOADING MOTOR / SAFETY TAB SW / REEL SENSOR
SYSTEM CONTROL SECTION
IC903
IC902
IC901
IC601
IC602
IC608
IC505
IC501
IC403
IC401
IC402
IC805
PG902
PG903
PG901
PG603
PG606
PG604
PG403
PG504
PG402
PG401
To TIMER CN752
To CAPSTAN MOTOR
To REGULATOR CN1652
To REGULATOR CN852
To V.S TUNING PG802
To VPS PG1101
To V.S TUNING PG801
To CONTROL HEAD/ AUDIO(REC/PB, ERASE)HEAD/ FULL ERASE HEAD.
AUDIO PLAY BACK LEVEL
AUDIO BIAS LEVEL
IF UNIT
TUNER UNIT
MH437F 94V-0
VIDEO
AUDIO
DEFEAT
AGC
AFC
AFC SW
AFT
KT-MUTE
BM
IF
BL
BH
VT
BU
A12V
COLOUR
AUTO
V.LOCK
21PEN PERI CONNECTOR
RED
ORN
BRN
RT601
SWITCHING POINT
RT607
TRACKING PRESET

MAIN P.C.B

SERVO SECTION | AUDIO/REAR JACK SECTION


IC602
0
4.1
11.7(11.2)
2.6
4.8
3.9(4.2)
0.6
6.4
2.9(5.0)
2.6
0
0
1
3
5
7
9
11
12

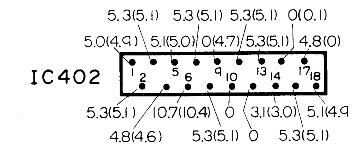

IC601
3.0
2.4
2.6(2.5)
2.7
2.3
–
–
0.4
0
–
–
0
–
3.2
1.8(–)
–
0
33
35
37
39
41
43
45
47
49
51
53
55
57
59
61
63
64
0(–)
1.9
4.4
2.5
–
–
–
0.3
–(2.9)
–
0.2(1.8)
–
0
3.2(–)
–
2.5
–
–
2.5
2.6(2.5)
–
0
0
0
0
1.1
–
0
0
–
–
32
31
29
27
25
23
21
19
17
15
13
11
9
7
5
3
1
2.3(2.5)
–
2.6
2.5
–
0
–
0
1.3
1.5
(0)
5.0
–
–
–
5.1

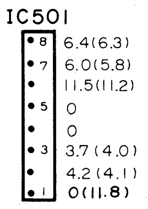
RT611
SLOW STABILTY

RT612
SLOW TRACKING PRESET

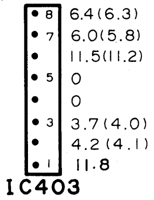
RT610, RT611
REFERENCE OSCILLATION FREQUENCY

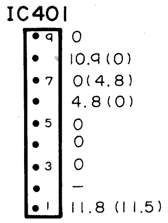
※ ONE VOLTAGE : PB OR REC MODE.
TWO VOLTAGE : PB AND (REC) MODE.

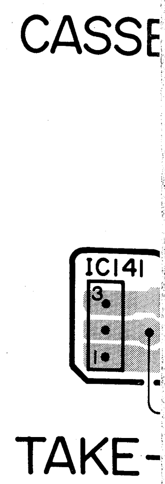

IC402
5.3(5.1)
5.3(5.1)
5.3(5.1)
0(0.1)
5.0(4.9)
5.1(5.0)
0(4.7)
5.3(5.1)
4.8(0)
1
2
5
6
9
10
13
14
17
18
5.3(5.1)
10.7(10.4)
0
3.1(3.0)
5.1(4.9)
4.8(4.6)
5.3(5.1)
0
5.3(5.1)

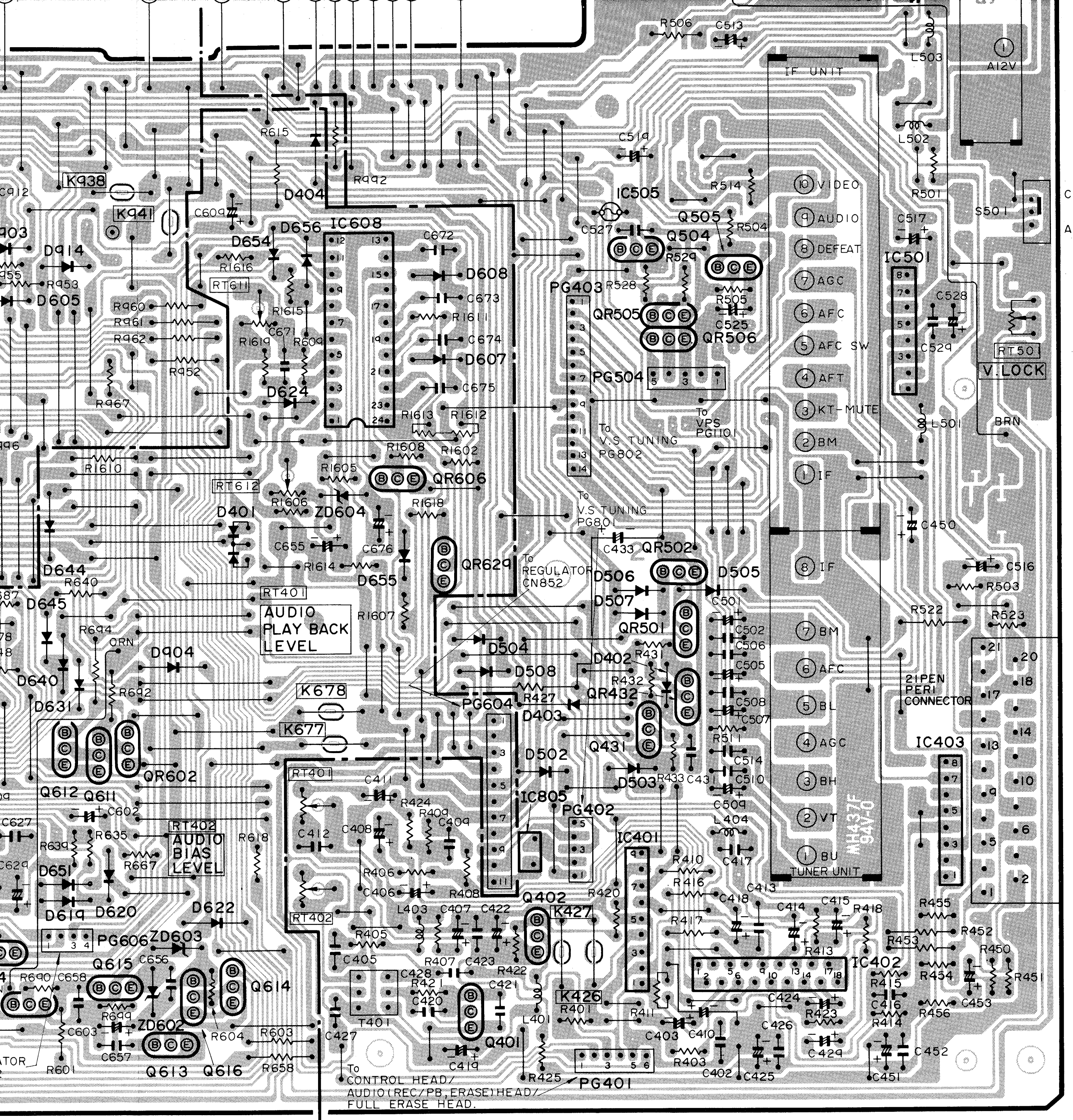

IC501
8
7
5
3
1
6.4(6.3)
6.0(5.8)
11.5(11.2)
0
0
3.7(4.0)
4.2(4.1)
0(11.8)

NO	SIGNAL
21	GND
20	VIDEO
19	VIDEO
18	GND
17	GND
16	———
15	———
14	GND
13	———
12	———
11	———
10	———
9	———
8	TV CONTROL
7	———
6	AUDIO(L)
5	———
4	GND
3	AUDIO(L)
2	AUDIO(R)
1	AUDIO(R)


8
7
5
3
1
6.4(6.3)
6.0(5.8)
11.5(11.2)
0
0
3.7(4.0)
4.2(4.1)
11.8
IC403


IC401
9
7
5
3
1
0
10.9(0)
0(4.8)
4.8(0)
0
0
0
–
11.8(11.5)


CASSE
TAKE-
IC141


IF UNIT
TUNER UNIT
IC501
IC505
IC608
IC805
IC401
IC402
IC403
QR505
QR506
QR606
QR629
QR502
QR501
QR432
QR602
Q505
Q504
Q431
Q402
Q401
Q612
Q611
Q615
Q613
Q616
Q614
PG403
PG504
PG604
PG402
PG606
PG401
RT611
RT612
RT401
RT402
RT501
V.LOCK
AUDIO PLAY BACK LEVEL
AUDIO BIAS LEVEL
K938
K941
K678
K677
K427
K426
COLOUR
AUTO
S501
A12V
To V.S TUNING PG802
To VPS PG1101
To V.S TUNING PG801
To REGULATOR CN852
21PEN PERI CONNECTOR
To CONTROL HEAD/ AUDIO (REC/PB, ERASE) HEAD/ FULL ERASE HEAD.
BRN
ORN
VIDEO
AUDIO
DEFEAT
AGC
AFC
AFC SW
AFT
KT-MUTE
BM
IF
BL
AGC
BH
VT
BU
T401

MAIN P.C.B

SERVO SECTION

AUDIO/REAR JACK SECTION

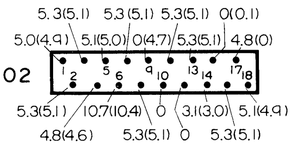
RT611
SLOW STABILTY

RT612
SLOW TRACKING PRESET

RT610, RT611
REFERENCE OSCILLATION FREQUENCY

※ ONE VOLTAGE : PB OR REC MODE.
TWO VOLTAGE : PB AND (REC) MODE.

IC402


5.3(5.1) 5.3(5.1) 5.3(5.1) 0(0.1)
5.0(4.9) 5.1(5.0) 0(4.7) 5.3(5.1) 4.8(0)
1 2 5 6 9 10 13 14 17 18
5.3(5.1) 10.7(10.4) 0 3.1(3.0) 5.1(4.9)
4.8(4.6) 5.3(5.1) 0 5.3(5.1)

IC501

8	6.4(6.3)
7	6.0(5.8)
	11.5(11.2)
5	0
	0
3	3.7(4.0)
	4.2(4.1)
1	0(11.8)

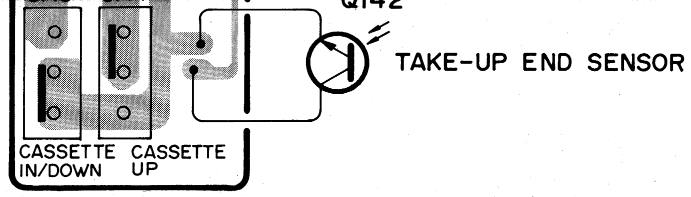
NO	SIGNAL
21	GND
20	VIDEO
19	VIDEO
18	GND
17	GND
16	——
15	
14	GND
13	——
12	——
11	——
10	——
9	——
8	TV CONTROL
7	——
6	AUDIO(L)
5	——
4	GND
3	AUDIO(L)
2	AUDIO(R)
1	AUDIO(R)

IC403

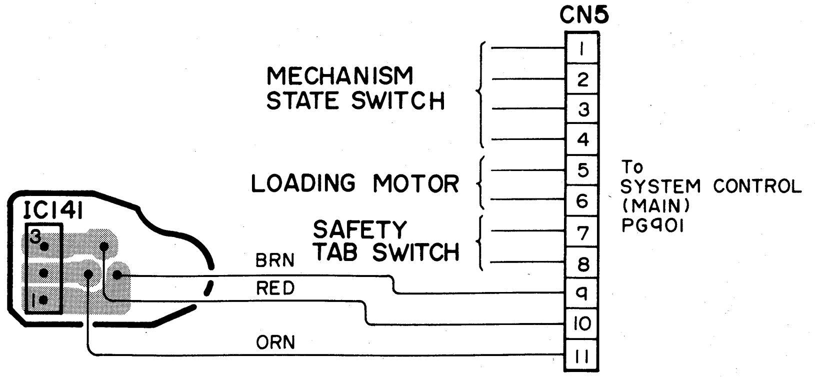
8	6.4(6.3)
7	6.0(5.8)
	11.5(11.2)
5	0
	0
3	3.7(4.0)
	4.2(4.1)
1	11.8

IC401

9	0
	10.9(0)
7	0(4.8)
	4.8(0)
5	0
	0
3	0
	–
1	11.8(11.5)


Q142
TAKE-UP END SENSOR
CASSETTE IN/DOWN
CASSETTE UP

CASSETTE LOADING MOTOR P.C.B

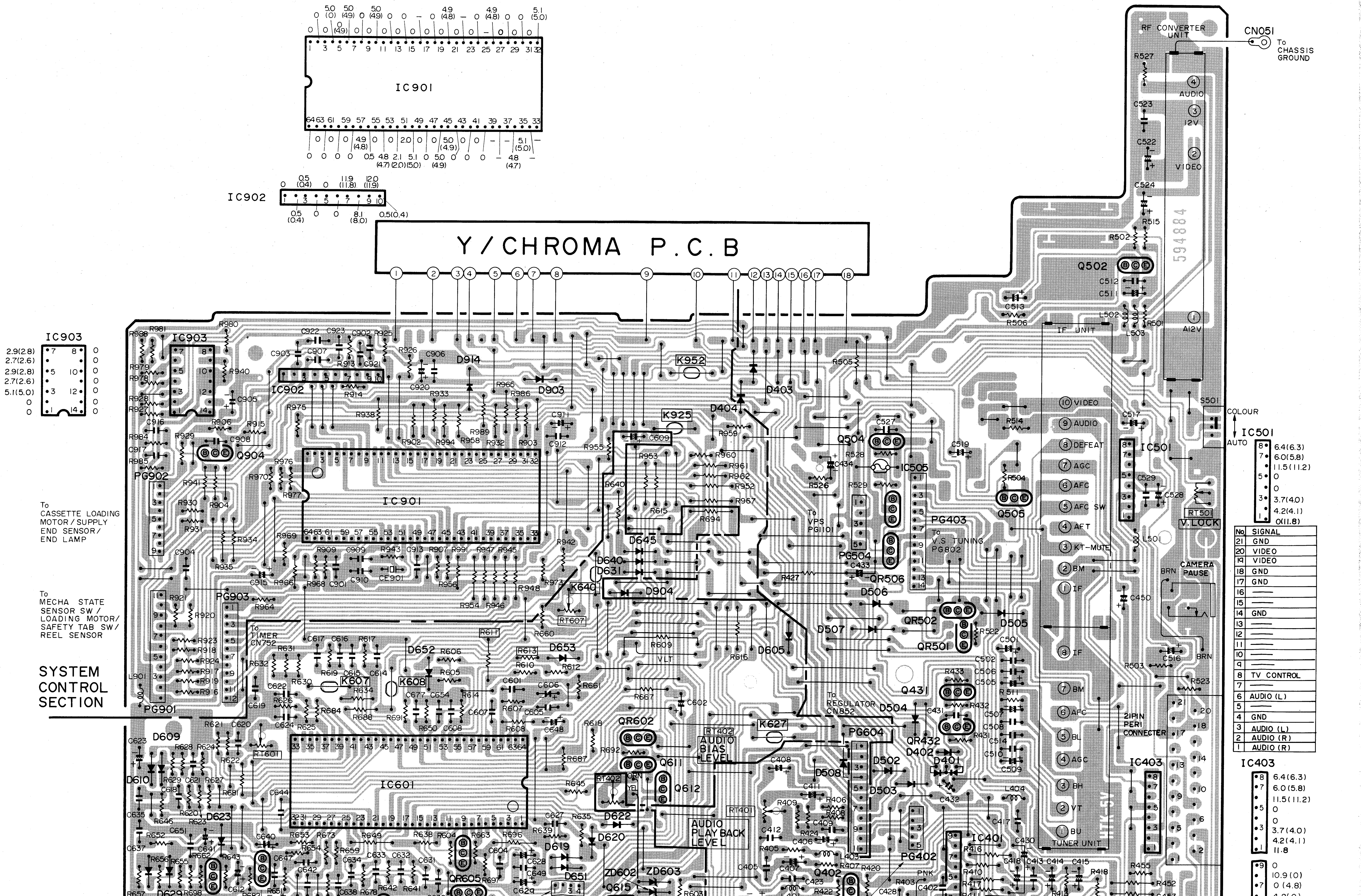

CN5
MECHANISM STATE SWITCH
LOADING MOTOR
SAFETY TAB SWITCH
To SYSTEM CONTROL (MAIN) PG901
IC141
BRN
RED
ORN
1
2
3
4
5
6
7
8
9
10
11

TAKE-UP REEL SENSOR P.C.B

SCHEMATIC DIAGRAM	PAGE VT-125E/VT-135E
INTERNAL WIRING DIAGRAM	5-2 /5-2
IF UNIT	5-4 /5-4
TUNER UNIT	5-6 /5-6
V·S TUNING	5-10/5-10
Y/EQUALIZER	5-34/5-34
VPS	5-40/5-40
TIMER/OPERATION SWITCH	5-6 /5-6
SYSTEM CONTROL	5-45/5-54
REMOTE CONTROL	5-16/5-16
AUDIO/REAR JACK	5-42/5-57
RF CONVERTER	5-22/5-22
PREAMP	5-29/5-29
SERVO	5-35/5-62
Y/CHROMA	5-23/5-23
REGULATOR/CYLINDER MOTOR DRIVE	5-18/5-18

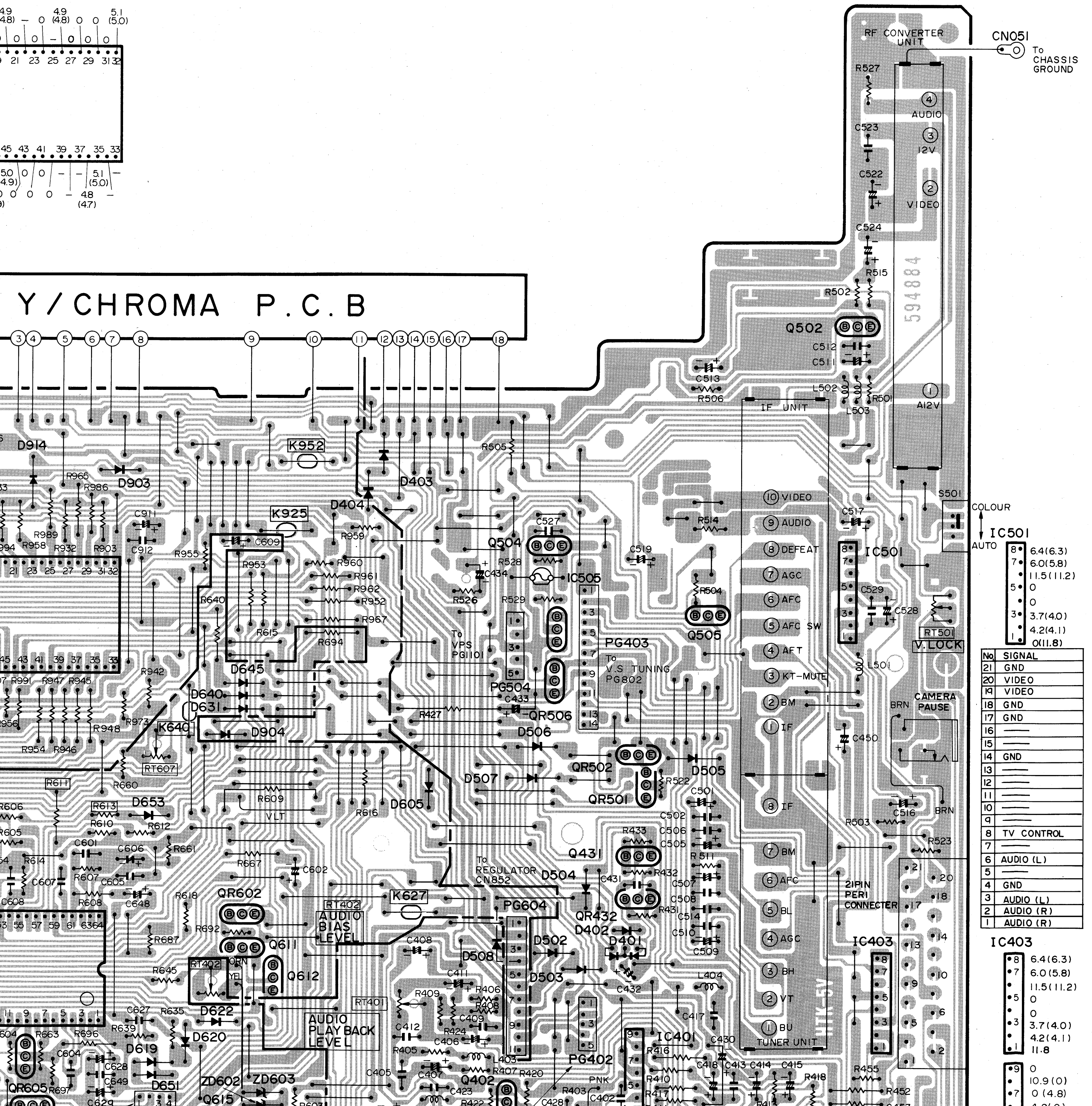
MAIN (HAUPT)

VT-125E (VPS)

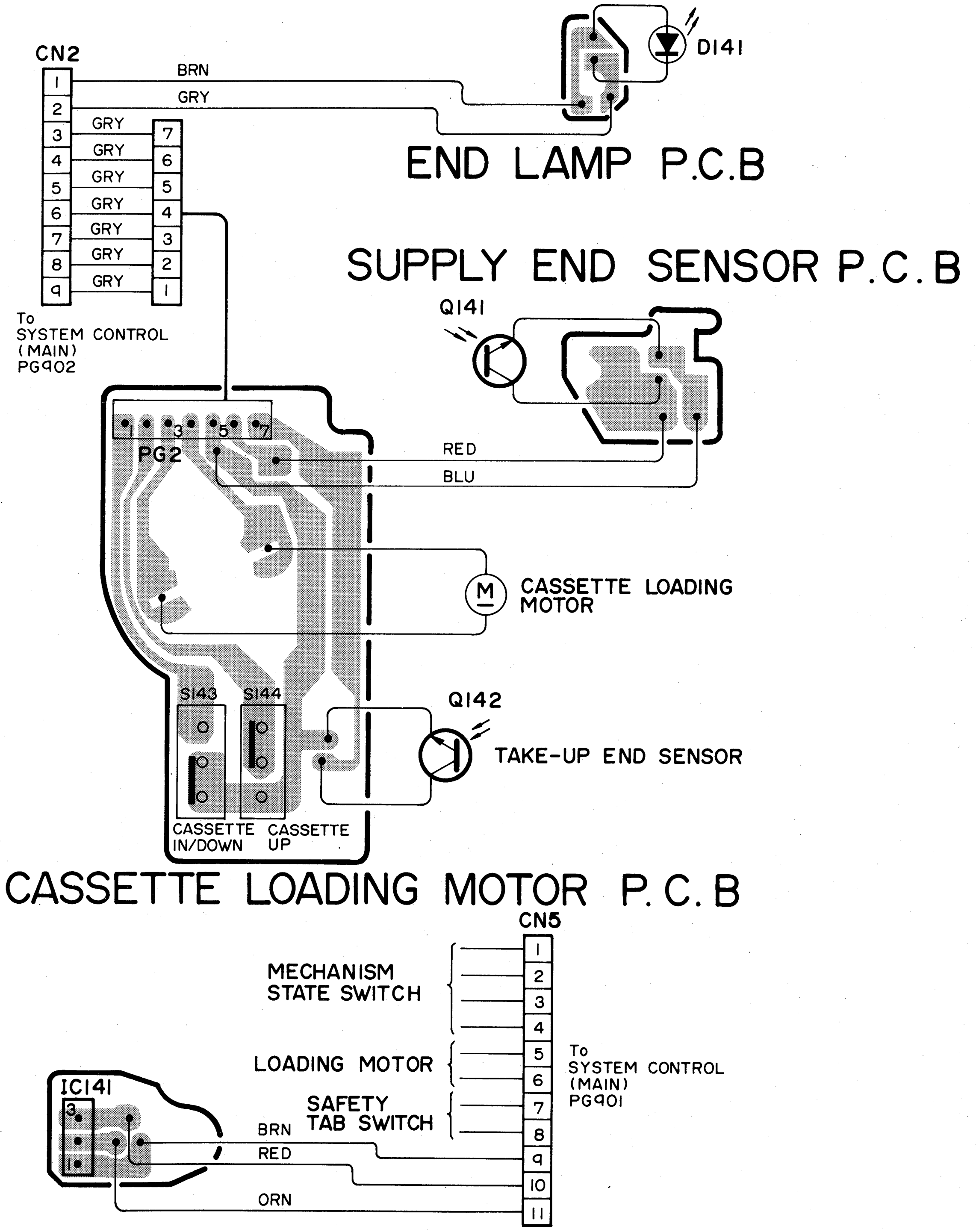

IC901
IC902
IC903
2.9(2.8)
2.7(2.6)
2.9(2.8)
2.7(2.6)
5.1(5.0)
Y/CHROMA P.C.B
RF CONVERTER UNIT
CN051
To CHASSIS GROUND
AUDIO
12V
VIDEO
A12V
594884
Q502
IF UNIT
TUNER UNIT
COLOUR
AUTO
IC501
6.4(6.3)
6.0(5.8)
11.5(11.2)
3.7(4.0)
4.2(4.1)
0(11.8)
V.LOCK
CAMERA PAUSE
BRN
21PIN PERI CONNECTER
IC403
IC401
To CASSETTE LOADING MOTOR / SUPPLY END SENSOR / END LAMP
To MECHA STATE SENSOR SW / LOADING MOTOR / SAFETY TAB SW / REEL SENSOR
SYSTEM CONTROL SECTION
To TIMER CN752
To VPS PG1101
To V.S TUNING PG802
To REGULATOR CN852
AUDIO BIAS LEVEL
AUDIO PLAY BACK LEVEL
IC601
PG901
PG902
PG903
PG403
PG504
PG604
PG402
VIDEO
AUDIO
DEFEAT
AGC
AFC
AFC SW
AFT
KT-MUTE
BM
IF
VT
BU
BH
BL
VLT
ORN
YEL
PNK

No.	SIGNAL
21	GND
20	VIDEO
19	VIDEO
18	GND
17	GND
16	———
15	———
14	GND
13	———
12	———
11	———
10	———
9	———
8	TV CONTROL
7	———
6	AUDIO (L)
5	———
4	GND
3	AUDIO (L)
2	AUDIO (R)
1	AUDIO (R)

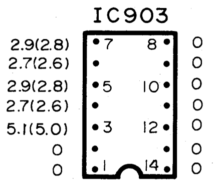
PERIPHERAL BOARD (PERIPHERIE-LEITERPLATTE)

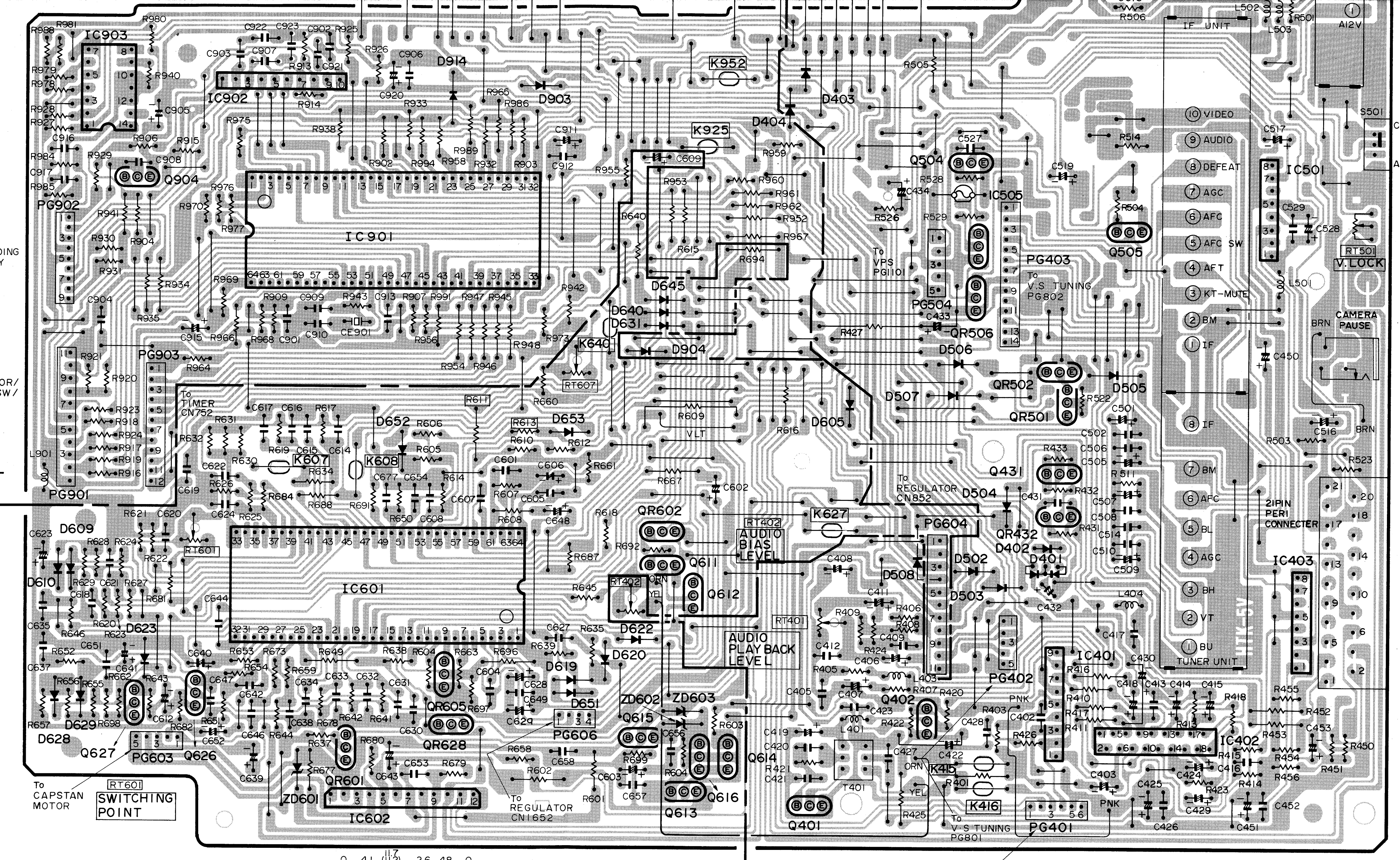

Y/CHROMA P.C.B
RF CONVERTER UNIT
CN051 To CHASSIS GROUND
④ AUDIO
③ 12V
② VIDEO
① A12V
594884
Q502
IF UNIT
⑩ VIDEO
⑨ AUDIO
⑧ DEFEAT
⑦ AGC
⑥ AFC
⑤ AFC SW
④ AFT
③ KT-MUTE
② BM
① IF
S501
COLOUR
AUTO
IC501
V.LOCK
RT501
CAMERA PAUSE
BRN
K952
K925
D914
D903
D403
D404
Q504
IC505
Q505
To VPS PG1101
PG403
To V.S TUNING PG802
PG504
QR506
D506
D505
QR502
QR501
D507
D605
D645
D640
D631
D904
K640
RT607
D653
To REGULATOR CN852
D504
Q431
QR432
D402
D401
K627
QR602
RT402
AUDIO BIAS LEVEL
Q611
Q612
RT402
PG604
D502
D508
D503
D622
D620
D619
D651
ZD602
ZD603
Q615
QR605
RT401
AUDIO PLAY BACK LEVEL
PG402
IC401
Q402
IC403
21PIN PERI CONNECTER
TUNER UNIT
⑧ IF
⑦ BM
⑥ AFC
⑤ BL
④ AGC
③ BH
② VT
① BU
IC501
8 6.4(6.3)
7 6.0(5.8)
11.5(11.2)
5 0
0
3 3.7(4.0)
4.2(4.1)
1 0(11.8)
IC403
8 6.4(6.3)
7 6.0(5.8)
11.5(11.2)
5 0
0
3 3.7(4.0)
4.2(4.1)
11.8
9 0
10.9(0)
7 0(4.8)

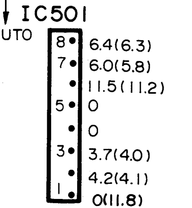
No.	SIGNAL
21	GND
20	VIDEO
19	VIDEO
18	GND
17	GND
16	———
15	———
14	GND
13	———
12	———
11	———
10	———
9	———
8	TV CONTROL
7	———
6	AUDIO (L)
5	———
4	GND
3	AUDIO (L)
2	AUDIO (R)
1	AUDIO (R)


CN2
BRN
GRY
GRY
GRY
GRY
GRY
GRY
GRY
GRY
To SYSTEM CONTROL (MAIN) PG902
D141
END LAMP P.C.B
SUPPLY END SENSOR P.C.B
Q141
PG2
RED
BLU
CASSETTE LOADING MOTOR
S143
S144
Q142
TAKE-UP END SENSOR
CASSETTE IN/DOWN
CASSETTE UP
CASSETTE LOADING MOTOR P.C.B
CN5
MECHANISM STATE SWITCH
LOADING MOTOR
SAFETY TAB SWITCH
To SYSTEM CONTROL (MAIN) PG901
IC141
BRN
RED
ORN

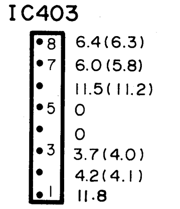
TAKE-UP REEL SENSOR P.C.B

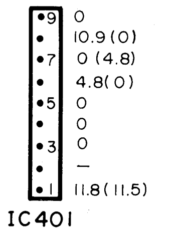

IC903
2.9(2.8)
2.7(2.6)
2.9(2.8)
2.7(2.6)
5.1(5.0)
0
0
7 8
5 10
3 12
1 14
0
0
0
0
0
0
0

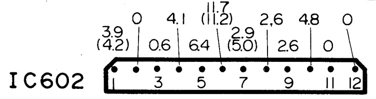

To CASSETTE LOADING MOTOR / SUPPLY END SENSOR / END LAMP
To MECHA STATE SENSOR SW / LOADING MOTOR / SAFETY TAB SW / REEL SENSOR
SYSTEM CONTROL SECTION
To TIMER CN752
To CAPSTAN MOTOR
RT601 SWITCHING POINT
To REGULATOR CN1652
To VPS PG1101
To V.S TUNING PG802
To REGULATOR CN852
To V.S TUNING PG801
RT402 AUDIO BIAS LEVEL
RT401 AUDIO PLAY BACK LEVEL
IF UNIT
TUNER UNIT
10 VIDEO
9 AUDIO
8 DEFEAT
7 AGC
6 AFC
5 AFC SW
4 AFT
3 KT-MUTE
2 BM
1 IF
8 IF
7 BM
6 AFC
5 BL
4 AGC
3 BH
2 VT
1 BU
21PIN PERI CONNECTER
COLOUR
AUTO
S501
RT501 V.LOCK
CAMERA PAUSE
BRN
A12V
IC901
IC902
IC903
IC601
IC602
IC501
IC505
IC401
IC402
IC403
PG901
PG902
PG903
PG401
PG402
PG403
PG504
PG603
PG604
PG606
To CONTROL HEAD / AUDIO (REC/PB, ERASE) HEAD / FULL ERASE HEAD.
SERVO SECTION
RT607 TRACKING PRESET
R610, R611 REFERENCE OSCILLATION FREQUENCY
AUDIO / REAR JACK SECTION


IC501
8 6.4(6.3)
7 6.0(5.8)
11.5(11.2)
5 0
0
3 3.7(4.0)
4.2(4.1)
1 0(11.8)

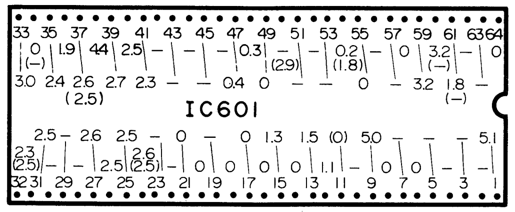
No	SIGNAL
21	GND
20	VIDEO
19	VIDEO
18	GND
17	GND
16	——
15	——
14	GND
13	——
12	——
11	——
10	——
9	——
8	TV CONTROL
7	——
6	AUDIO (L)
5	——
4	GND
3	AUDIO (L)
2	AUDIO (R)
1	AUDIO (R)


IC403
8 6.4(6.3)
7 6.0(5.8)
11.5(11.2)
5 0
0
3 3.7(4.0)
4.2(4.1)
11.8

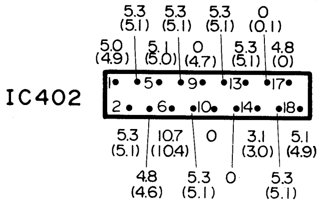

9 0
10.9(0)
7 0(4.8)
4.8(0)
5 0
0
3 0
–
1 11.8(11.5)
IC401

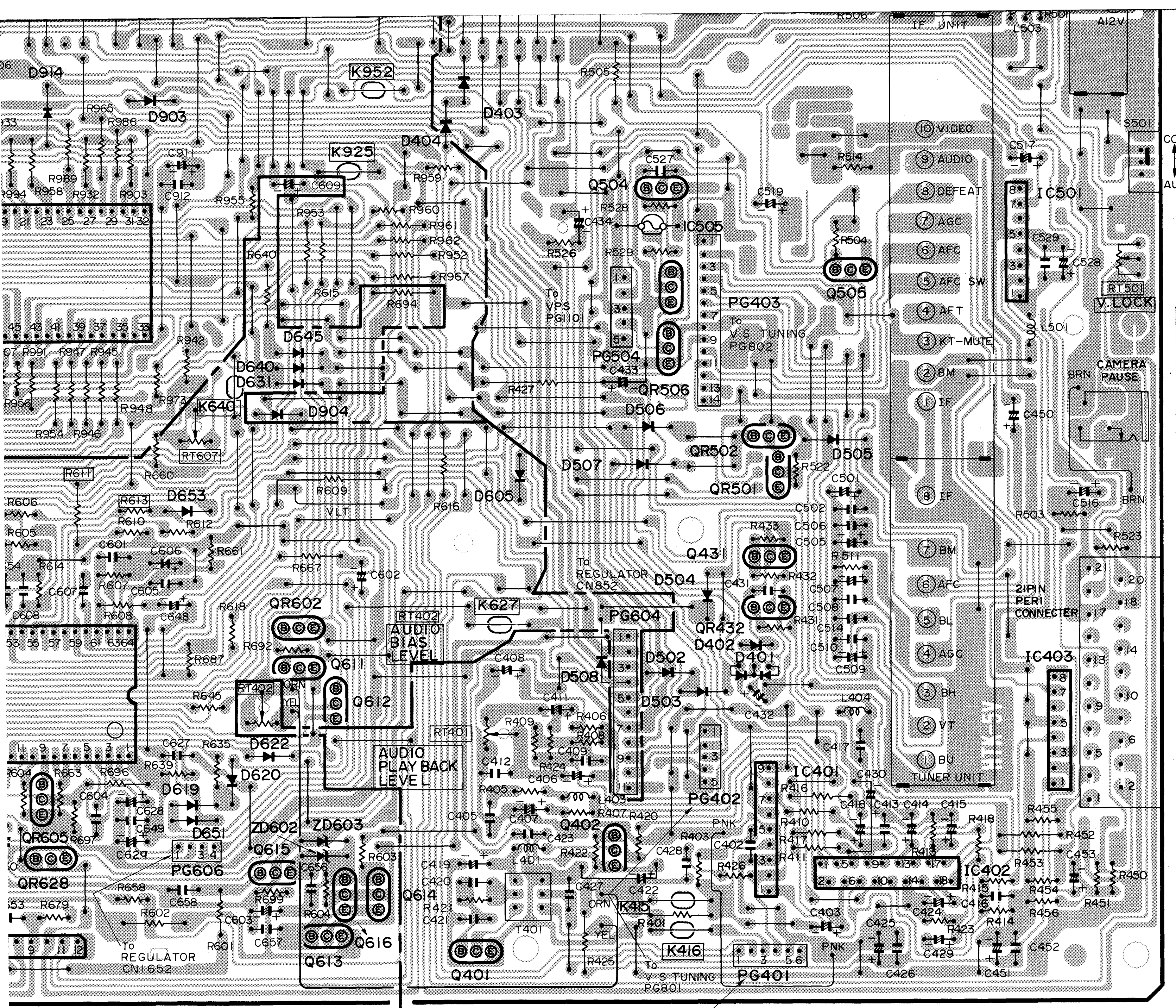

IC602
39 (4.2)
0
06
4.1
64
11.7 (11.2)
2.9 (5.0)
2.6
26
48
0
0
1 3 5 7 9 11 12

MAIN P.C.B


33 35 37 39 41 43 45 47 49 51 53 55 57 59 61 63 64
1.0 (–) 1.9 4.4 2.5 – – – 0.3 – – 0.2 (1.8) – 0 3.2 (–) – 0
(29)
30 24 26 27 23 – – 0.4 0 – – 0 – 32 1.8 (–) –
(2.5)
IC601
2.5 – 2.6 2.5 – 0 – 0 1.3 1.5 (0) 5.0 – – – – 5.1
2.3 (2.5) – – 2.5 2.6 (2.5) – 0 0 0 0 1.1 – 0 0 – –
32 31 29 27 25 23 21 19 17 15 13 11 9 7 5 3 1

※ ONE VOLTAGE : PB OR REC MODE.
TWO VOLTAGES : PB AND (REC) MODE.


5.3 (5.1)
5.3 (5.1)
5.3 (5.1)
0 (0.1)
5.0 (4.9)
5.1 (5.0)
0 (4.7)
5.3 (5.1)
4.8 (0)
IC402
1 5 9 13 17
2 6 10 14 18
5.3 (5.1)
10.7 (10.4)
0
3.1 (3.0)
5.1 (4.9)
4.8 (4.6)
5.3 (5.1)
0
5.3 (5.1)

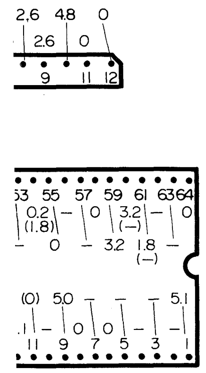

D914
R965
D903
R986
R989
R958
R932
R903
R994
C911
C912
R955
K952
K925
C609
R953
R959
D404
R960
R961
R962
R952
R967
R694
R615
R640
D645
D640
D631
D904
K640
R942
R973
R948
R954
R946
RT607
R611
R660
R613
D653
R606
R610
R612
R605
C601
C606
R661
R614
R607
C605
C607
C608
C648
R618
R609
VLT
R667
C602
R616
D605
QR602
Q611
Q612
RT402
AUDIO BIAS LEVEL
RT401
AUDIO PLAY BACK LEVEL
R692
R687
R645
ORN
YEL
D622
C627
R635
R639
D620
D619
R663
R696
C604
C628
C649
D651
R697
QR605
QR628
ZD602
ZD603
Q615
C656
R603
PG606
R658
C658
R699
C603
R602
R604
Q613
Q616
Q614
C657
R601
R679
To REGULATOR CN1652
R505
D403
IF UNIT
L503
R506
R501
A12V
S501
COLOUR
AUTO
C527
Q504
R528
C434
IC505
R526
R529
To VPS PG1101
PG504
C433
QR506
R427
D506
PG403
To V.S TUNING PG802
R514
C519
R504
Q505
⑩ VIDEO
⑨ AUDIO
⑧ DEFEAT
⑦ AGC
⑥ AFC
⑤ AFC SW
④ AFT
③ KT-MUTE
② BM
① IF
⑨ IF
⑦ BM
⑥ AFC
⑤ BL
④ AGC
③ BH
② VT
① BU
TUNER UNIT
C517
IC501
C529
C528
RT501
V.LOCK
L501
CAMERA PAUSE
BRN
C450
D507
QR502
QR501
R522
D505
C501
C502
C506
C505
R433
Q431
R432
C431
QR432
R431
D504
To REGULATOR CN852
K627
PG604
D402
D401
D502
D508
D503
C432
L404
R409
C411
R406
R408
C409
R424
C406
C412
R405
C403
R407
R420
Q402
C407
C405
C423
R422
L401
C419
C420
R421
C421
T401
C427
ORN
K415
C422
R401
YEL
R425
K416
To V.S TUNING PG801
Q401
PG401
PG402
PNK
R403
C402
R426
C428
IC401
R416
R410
R417
R411
C418
C413
C414
C415
C430
C417
R413
R418
R415
IC402
C416
C424
R423
C425
C429
C426
R414
C451
C452
R453
R454
R456
R455
R452
C453
R450
R451
C516
R503
R523
C507
C508
C514
C510
C509
R511
21PIN PERI CONNECTER
IC403
To CONTROL HEAD/ AUDIO (REC/PB, ERASE) HEAD/ FULL ERASE HEAD.

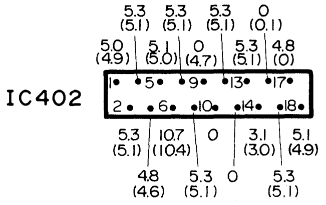
SERVO SECTION

AUDIO / REAR JACK SECTION

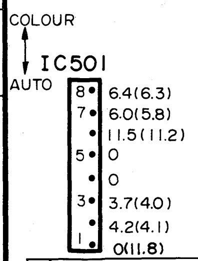
RT607	R610, R611
TRACKING PRESET	REFERENCE OSCILLATION FREQUENCY

MAIN P.C.B

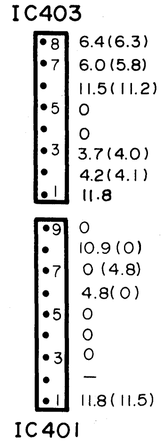

2.6 48 0
26 0
9 11 12
53 55 57 59 61 6364
0.2 (1.8) 0 3.2 (−)
0 32 1.8 (−)
(0) 5.0 5.1
0 11 9 7 5 3 1

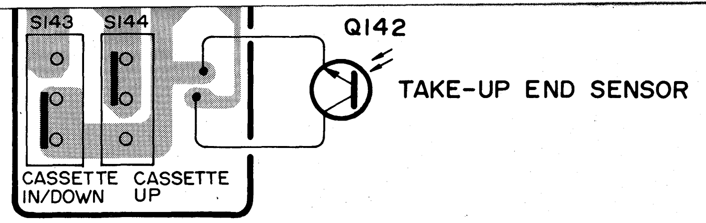

IC402
5.3 (5.1)
5.3 (5.1)
5.3 (5.1)
0 (0.1)
5.0 (4.9)
5.1 (5.0)
0 (4.7)
5.3 (5.1)
4.8 (0)
1 5 9 13 17
2 6 10 14 18
5.3 (5.1)
10.7 (10.4)
0
3.1 (3.0)
5.1 (4.9)
4.8 (4.6)
5.3 (5.1)
0
5.3 (5.1)

※ ONE VOLTAGE : PB OR REC MODE.
TWO VOLTAGES: PB AND (REC) MODE.

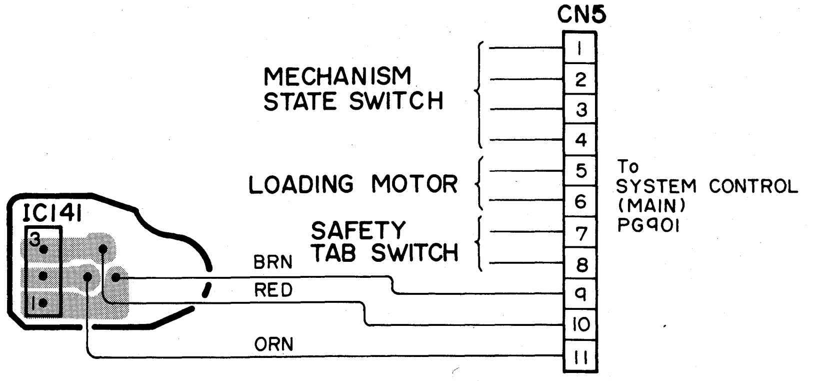

COLOUR
AUTO
IC501
8 6.4(6.3)
7 6.0(5.8)
11.5(11.2)
5 0
0
3 3.7(4.0)
4.2(4.1)
1 0(11.8)

No.	SIGNAL
21	GND
20	VIDEO
19	VIDEO
18	GND
17	GND
16	——
15	——
14	GND
13	——
12	——
11	——
10	——
9	——
8	TV CONTROL
7	——
6	AUDIO (L)
5	——
4	GND
3	AUDIO (L)
2	AUDIO (R)
1	AUDIO (R)


IC403
8 6.4(6.3)
7 6.0(5.8)
11.5(11.2)
5 0
0
3 3.7(4.0)
4.2(4.1)
1 11.8
9 0
10.9(0)
7 0 (4.8)
4.8(0)
5 0
0
3 0
—
1 11.8(11.5)
IC401


S143
S144
Q142
TAKE-UP END SENSOR
CASSETTE IN/DOWN
CASSETTE UP

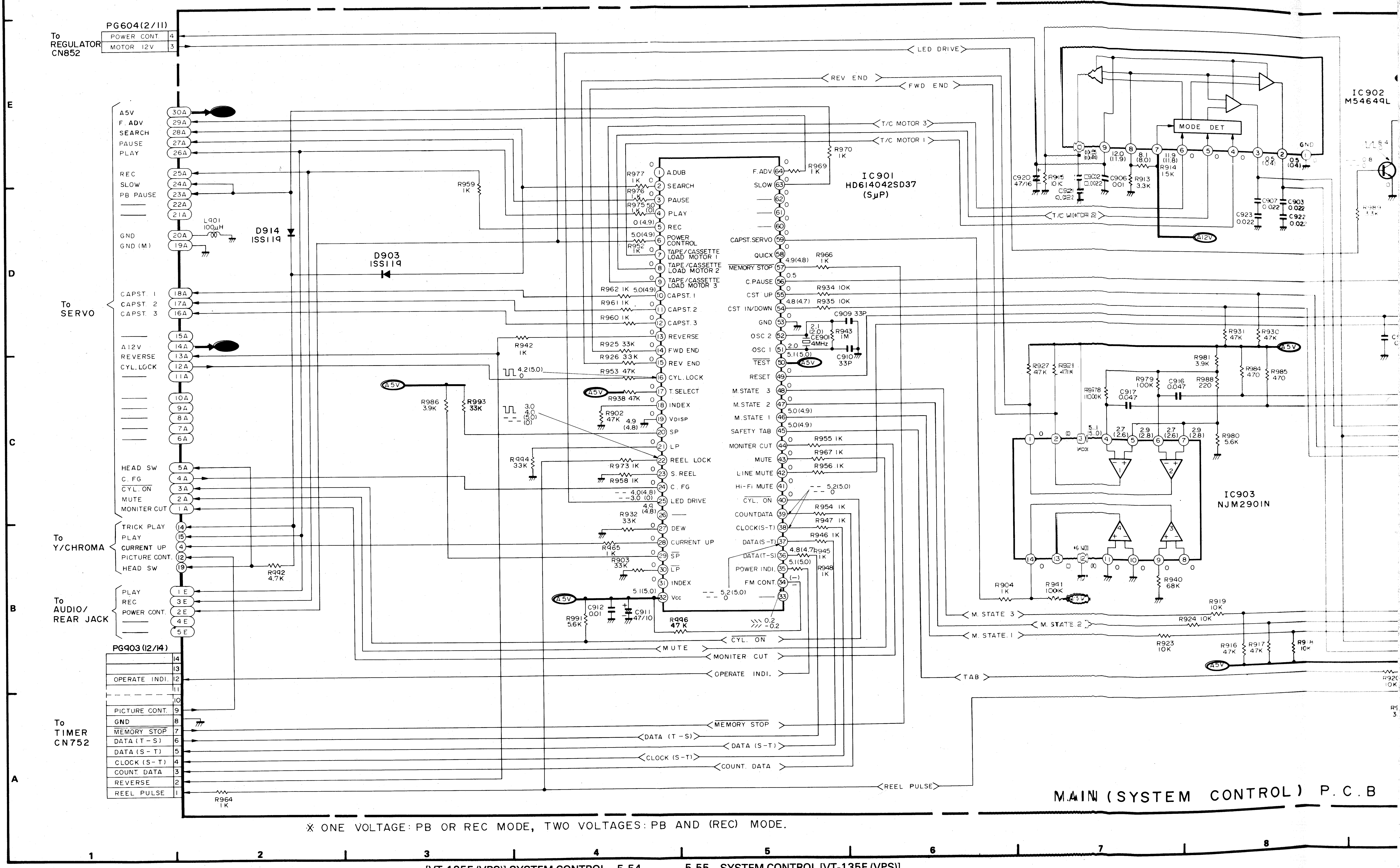
CASSETTE LOADING MOTOR P.C.B


CN5
MECHANISM STATE SWITCH
LOADING MOTOR
SAFETY TAB SWITCH
IC141
3
BRN
RED
ORN
1
2
3
4
5
6
7
8
9
10
11
To SYSTEM CONTROL (MAIN) PG901

TAKE-UP REEL SENSOR P.C.B

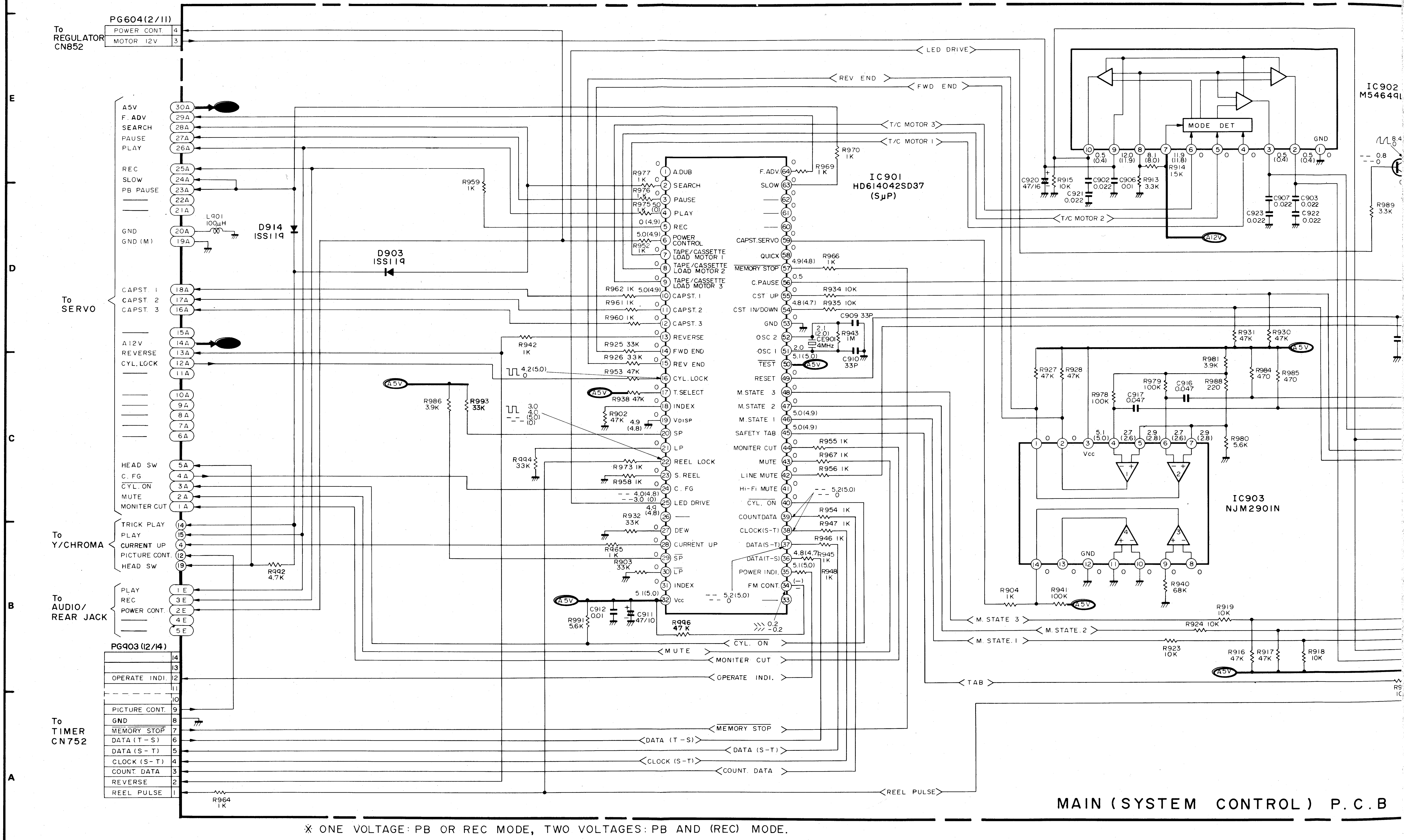
SYSTEM CONTROL (SYSTEMREGELUNG)

VT-135E (VPS)

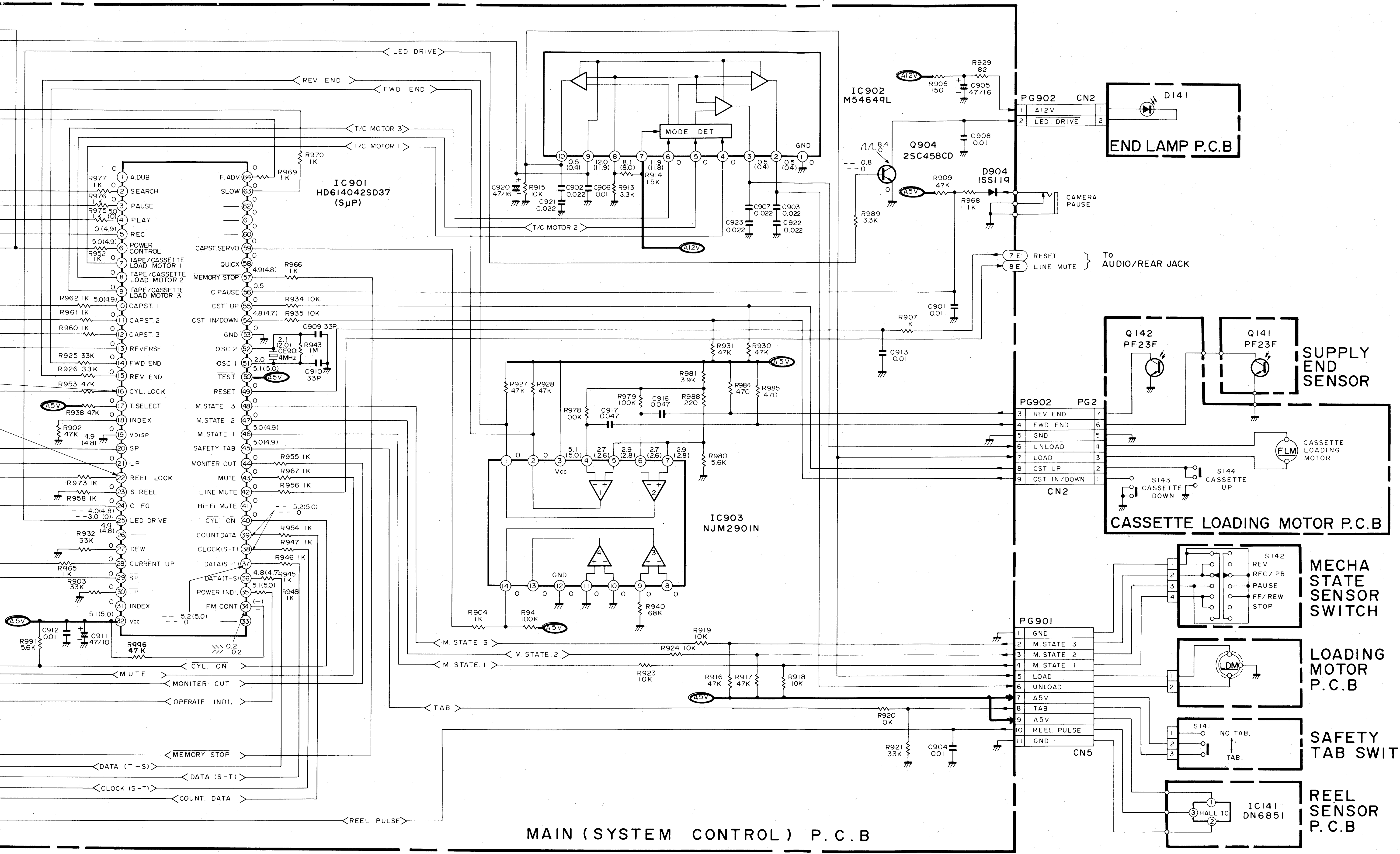

PG604(2/11)
To REGULATOR CN852
POWER CONT 4
MOTOR 12V 3
LED DRIVE
REV END
FWD END
T/C MOTOR 3
T/C MOTOR 1
T/C MOTOR 2
A5V 30A
F. ADV 29A
SEARCH 28A
PAUSE 27A
PLAY 26A
REC 25A
SLOW 24A
PB PAUSE 23A
22A
21A
GND 20A
GND (M) 19A
L901 100μH
D914 ISS119
D903 ISS119
To SERVO
CAPST 1 18A
CAPST 2 17A
CAPST 3 16A
15A
A12V 14A
REVERSE 13A
CYL. LOCK 12A
11A
10A
9A
8A
7A
6A
HEAD SW 5A
C. FG 4A
CYL. ON 3A
MUTE 2A
MONITER CUT 1A
To Y/CHROMA
TRICK PLAY 14
PLAY 15
CURRENT UP 4
PICTURE CONT. 12
HEAD SW 19
R992 4.7K
To AUDIO/REAR JACK
PLAY 1E
REC 3E
POWER CONT. 2E
4E
5E
PG903 (12/14)
To TIMER CN752
14
13
OPERATE INDI. 12
11
10
PICTURE CONT. 9
GND 8
MEMORY STOP 7
DATA (T-S) 6
DATA (S-T) 5
CLOCK (S-T) 4
COUNT. DATA 3
REVERSE 2
REEL PULSE 1
R964 1K
R959 1K
R942 1K
R986 3.9K
R993 33K
R994 33K
A5V
IC901
HD614042SD37
(SμP)
1 A.DUB
2 SEARCH
3 PAUSE
4 PLAY
5 REC
6 POWER CONTROL
7 TAPE/CASSETTE LOAD MOTOR 1
8 TAPE/CASSETTE LOAD MOTOR 2
9 TAPE/CASSETTE LOAD MOTOR 3
10 CAPST. 1
11 CAPST. 2
12 CAPST. 3
13 REVERSE
14 FWD END
15 REV END
16 CYL. LOCK
17 T. SELECT
18 INDEX
19 VDISP
20 SP
21 LP
22 REEL LOCK
23 S. REEL
24 C. FG
25 LED DRIVE
26
27 DEW
28 CURRENT UP
29 SP
30 LP
31 INDEX
32 Vcc
64 F. ADV
63 SLOW
62
61
60
59 CAPST. SERVO
58 QUICX
57 MEMORY STOP
56 C. PAUSE
55 CST UP
54 CST IN/DOWN
53 GND
52 OSC 2
51 OSC 1
50 TEST
49 RESET
48 M. STATE 3
47 M. STATE 2
46 M. STATE 1
45 SAFETY TAB
44 MONITER CUT
43 MUTE
42 LINE MUTE
41 Hi-Fi MUTE
40 CYL. ON
39 COUNTDATA
38 CLOCK(S-T)
37 DATA(S-T)
36 DATA(T-S)
35 POWER INDI.
34 FM CONT.
33
R977 1K
R976 1K
R975 1K
R952 1K
R962 1K
R961 1K
R960 1K
R925 33K
R926 33K
R953 47K
R938 47K
R902 47K
R973 1K
R958 1K
R932 33K
R965 1K
R903 33K
R969 1K
R970 1K
R966 1K
R934 10K
R935 10K
C909 33P
R943 1M
CE901 4MHz
C910 33P
R955 1K
R967 1K
R956 1K
R954 1K
R947 1K
R946 1K
R945 1K
R948 1K
C912 0.01
C911 47/10
R991 5.6K
R996 47K
MUTE
CYL. ON
MONITER CUT
OPERATE INDI.
MEMORY STOP
DATA (T-S)
DATA (S-T)
CLOCK (S-T)
COUNT. DATA
REEL PULSE
M. STATE 3
M. STATE 2
M. STATE 1
TAB
IC902
M54649L
MODE DET
GND
C920 47/16
R915 10K
C921 0.022
C9022 0.0022
C906 0.01
R913 3.3K
R914 15K
C907 0.022
C903 0.022
C923 0.022
C922 0.022
A12V
IC903
NJM2901N
R931 47K
R930 47K
R981 3.9K
R927 47K
R928 47K
R978 100K
R979 100K
C917 0.047
C916 0.047
R988 220
R984 470
R985 470
R980 5.6K
R904 1K
R941 100K
R940 68K
R919 10K
R924 10K
R923 10K
R916 47K
R917 47K
R918 10K
MAIN (SYSTEM CONTROL) P.C.B
1
2
3
4
5
6
7
8
A
B
C
D
E

※ ONE VOLTAGE: PB OR REC MODE, TWO VOLTAGES: PB AND (REC) MODE.

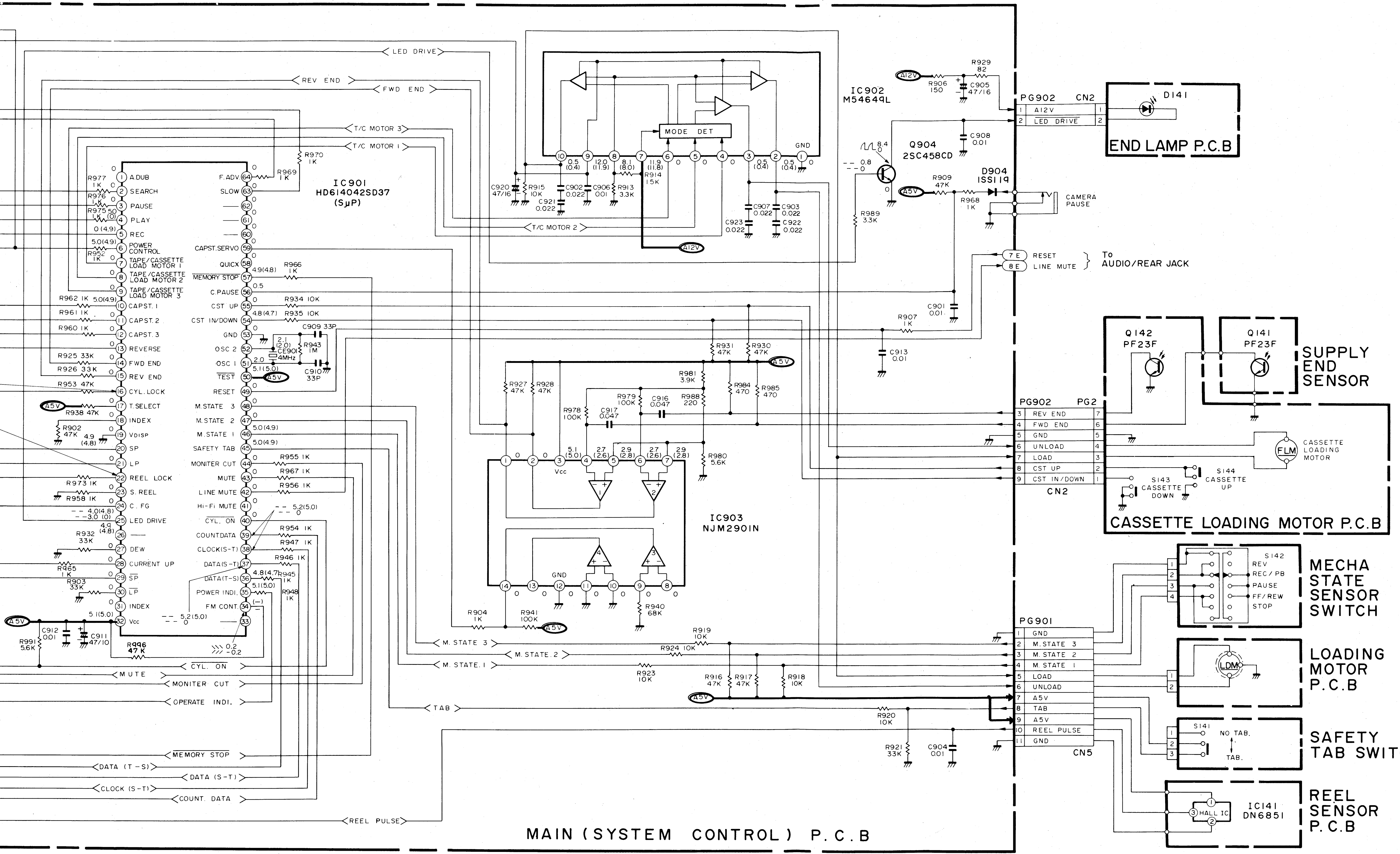
SYSTEM CONTROL (SYSTEMREGELUNG) VT-135E (VPS)


To REGULATOR CN852
PG604(2/11)
POWER CONT
MOTOR 12V
To SERVO
To Y/CHROMA
To AUDIO/ REAR JACK
To TIMER CN752
PG903(12/14)
A5V
F. ADV
SEARCH
PAUSE
PLAY
REC
SLOW
PB PAUSE
GND
GND (M)
CAPST. 1
CAPST. 2
CAPST. 3
A12V
REVERSE
CYL. LOCK
HEAD SW
C. FG
CYL. ON
MUTE
MONITER CUT
TRICK PLAY
PLAY
CURRENT UP
PICTURE CONT.
HEAD SW
PLAY
REC
POWER CONT.
OPERATE INDI.
PICTURE CONT.
GND
MEMORY STOP
DATA (T-S)
DATA (S-T)
CLOCK (S-T)
COUNT. DATA
REVERSE
REEL PULSE
L901 100μH
D914 1SS119
D903 1SS119
R959 1K
R942 1K
R986 3.9K
R993 33K
R994 33K
R992 4.7K
R964 1K
IC901 HD614042SD37 (SμP)
A.DUB
SEARCH
PAUSE
PLAY
REC
POWER CONTROL
TAPE/CASSETTE LOAD MOTOR 1
TAPE/CASSETTE LOAD MOTOR 2
TAPE/CASSETTE LOAD MOTOR 3
CAPST. 1
CAPST. 2
CAPST. 3
REVERSE
FWD END
REV END
CYL. LOCK
T. SELECT
INDEX
VDISP
SP
LP
REEL LOCK
S. REEL
C. FG
LED DRIVE
DEW
CURRENT UP
SP
LP
INDEX
Vcc
F. ADV
SLOW
CAPST. SERVO
QUICK
MEMORY STOP
C. PAUSE
CST UP
CST IN/DOWN
GND
OSC 2
OSC 1
TEST
RESET
M. STATE 3
M. STATE 2
M. STATE 1
SAFETY TAB
MONITER CUT
MUTE
LINE MUTE
Hi-Fi MUTE
CYL. ON
COUNTDATA
CLOCK(S-T)
DATA(S-T)
DATA(T-S)
POWER INDI.
FM CONT
CE901 4MHz
C909 33P
C910 33P
R943 1M
C911 47/10
C912 0.01
R991 5.6K
R996 47K
LED DRIVE
REV END
FWD END
T/C MOTOR 3
T/C MOTOR 1
T/C MOTOR 2
MODE DET
GND
A12V
IC902 M54649L
IC903 NJM2901N
Vcc
GND
M. STATE 3
M. STATE 2
M. STATE 1
TAB
MUTE
MONITER CUT
OPERATE INDI.
MEMORY STOP
DATA (T-S)
DATA (S-T)
CLOCK (S-T)
COUNT. DATA
REEL PULSE
MAIN (SYSTEM CONTROL) P.C.B

※ ONE VOLTAGE: PB OR REC MODE, TWO VOLTAGES: PB AND (REC) MODE.


IC901
HD614042SD37
(SμP)
IC902
M54649L
IC903
NJM2901N
Q904
2SC458CD
D904
1SS119
MODE DET
LED DRIVE
REV END
FWD END
T/C MOTOR 3
T/C MOTOR 1
T/C MOTOR 2
A12V
A5V
A.DUB
SEARCH
PAUSE
PLAY
REC
POWER CONTROL
TAPE/CASSETTE LOAD MOTOR 1
TAPE/CASSETTE LOAD MOTOR 2
TAPE/CASSETTE LOAD MOTOR 3
CAPST. 1
CAPST. 2
CAPST. 3
REVERSE
FWD END
REV END
CYL. LOCK
T. SELECT
INDEX
VDISP
SP
LP
REEL LOCK
S. REEL
C. FG
LED DRIVE
DEW
CURRENT UP
SP
LP
INDEX
Vcc
F. ADV
SLOW
CAPST. SERVO
QUICK
MEMORY STOP
C. PAUSE
CST UP
CST IN/DOWN
GND
OSC 2
OSC 1
TEST
RESET
M. STATE 3
M. STATE 2
M. STATE 1
SAFETY TAB
MONITER CUT
MUTE
LINE MUTE
Hi-Fi MUTE
CYL. ON
COUNTDATA
CLOCK(S-T)
DATA(S-T)
DATA(T-S)
POWER INDI.
FM CONT.
CE901 4MHz
CAMERA PAUSE
RESET
LINE MUTE
To AUDIO/REAR JACK
PG902 CN2
A12V
LED DRIVE
D141
END LAMP P.C.B
Q142 PF23F
Q141 PF23F
SUPPLY END SENSOR
PG902 PG2
REV END
FWD END
GND
UNLOAD
LOAD
CST UP
CST IN/DOWN
CN2
FLM
CASSETTE LOADING MOTOR
S143 CASSETTE DOWN
S144 CASSETTE UP
CASSETTE LOADING MOTOR P.C.B
S142
REV
REC/PB
PAUSE
FF/REW
STOP
MECHA STATE SENSOR SWITCH
PG901
GND
M. STATE 3
M. STATE 2
M. STATE 1
LOAD
UNLOAD
A5V
TAB
A5V
REEL PULSE
GND
CN5
LDM
LOADING MOTOR P.C.B
S141
NO TAB.
TAB.
SAFETY TAB SWITCH
HALL IC
IC141 DN6851
REEL SENSOR P.C.B
M. STATE 3
M. STATE 2
M. STATE 1
TAB
MUTE
MONITER CUT
OPERATE INDI.
CYL. ON
MEMORY STOP
DATA (T-S)
DATA (S-T)
CLOCK (S-T)
COUNT. DATA
REEL PULSE
MAIN (SYSTEM CONTROL) P.C.B
4
5
6
7
8
9
10
11

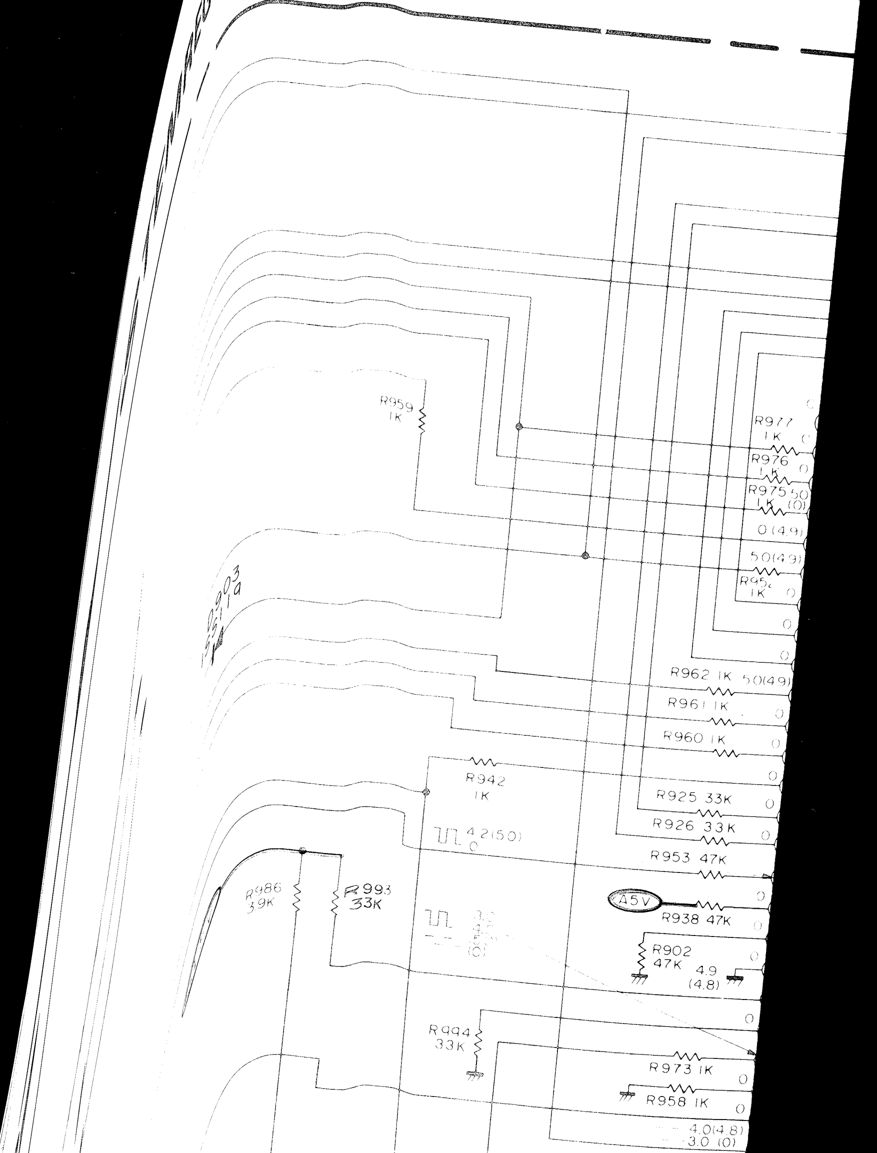
WO VOLTAGES: PB AND (REC) MODE.


IC901
HD614042SD37
(SμP)
IC902
M54649L
IC903
NJM2901N
Q904
2SC458CD
D904
1SS119
MODE DET
GND
A.DUB
SEARCH
PAUSE
PLAY
REC
POWER CONTROL
TAPE/CASSETTE LOAD MOTOR 1
TAPE/CASSETTE LOAD MOTOR 2
TAPE/CASSETTE LOAD MOTOR 3
CAPST. 1
CAPST. 2
CAPST. 3
REVERSE
FWD END
REV END
CYL. LOCK
T. SELECT
INDEX
VDISP
SP
LP
REEL LOCK
S. REEL
C. FG
LED DRIVE
DEW
CURRENT UP
SP
LP
INDEX
Vcc
F. ADV
SLOW
CAPST. SERVO
QUICK
MEMORY STOP
C. PAUSE
CST UP
CST IN/DOWN
GND
OSC 2
OSC 1
TEST
RESET
M. STATE 3
M. STATE 2
M. STATE 1
SAFETY TAB
MONITER CUT
MUTE
LINE MUTE
Hi-Fi MUTE
CYL. ON
COUNT DATA
CLOCK(S-T)
DATA(S-T)
DATA(T-S)
POWER INDI.
FM CONT.
LED DRIVE
REV END
FWD END
T/C MOTOR 3
T/C MOTOR 1
T/C MOTOR 2
A12V
A5V
4MHz
CE901
M. STATE 3
M. STATE 2
M. STATE 1
TAB
CYL. ON
MUTE
MONITER CUT
OPERATE INDI.
MEMORY STOP
DATA (T-S)
DATA (S-T)
CLOCK (S-T)
COUNT. DATA
REEL PULSE
CAMERA PAUSE
RESET
LINE MUTE
To AUDIO/REAR JACK
PG902 CN2
A12V
LED DRIVE
D141
END LAMP P.C.B
Q142 PF23F
Q141 PF23F
SUPPLY END SENSOR
PG902 PG2
REV END
FWD END
GND
UNLOAD
LOAD
CST UP
CST IN/DOWN
CN2
FLM
CASSETTE LOADING MOTOR
S144 CASSETTE UP
S143 CASSETTE DOWN
CASSETTE LOADING MOTOR P.C.B
S142
REV
REC/PB
PAUSE
FF/REW
STOP
MECHA STATE SENSOR SWITCH
PG901
GND
M. STATE 3
M. STATE 2
M. STATE 1
LOAD
UNLOAD
A5V
TAB
A5V
REEL PULSE
GND
CN5
LDM
LOADING MOTOR P.C.B
S141
NO TAB.
TAB.
SAFETY TAB SWITCH
HALL IC
IC141 DN6851
REEL SENSOR P.C.B
MAIN (SYSTEM CONTROL) P.C.B

WO VOLTAGES: PB AND (REC) MODE.

UNG)

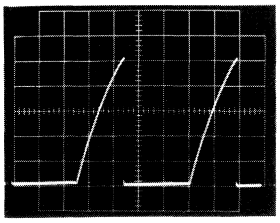
VT-135E (VPS)


R959
1K
R977
1K
R976
1K
R975
1K
5.0
(0)
0(4.9)
5.0(4.9)
R954
1K
R962 1K 5.0(4.9)
R961 1K
R960 1K
R942
1K
4.2(5.0)
0
R925 33K
R926 33K
R953 47K
A5V
R938 47K
R986
3.9K
R993
33K
R902
47K
4.9
(4.8)
R994
33K
R973 1K
R958 1K
4.0(4.8)
3.0 (0)
0

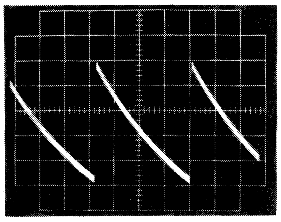
SERVO CIRCUIT WAVEFORMS (WELLENFORM)

[IC601] **(REC: Colour bar Video in/PB: Alignment tape)**

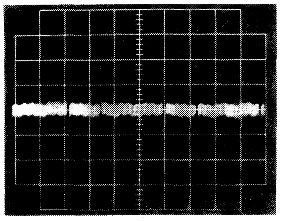
① PIN2 REC/PB
0.5V/10ms. div.



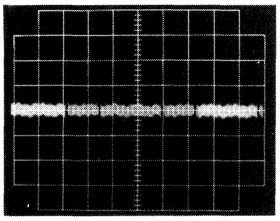
② PIN3 REC/PB
0.1V/10ms. div.



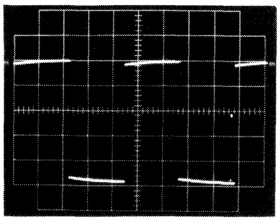
③ PIN4 REC/PB
50mV/10ms. div.



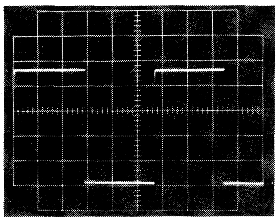
④ PIN5 REC/PB
50mV/10ms. div.



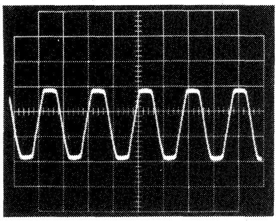
⑤ PIN11 REC/PB
1V/0.2ms. div.



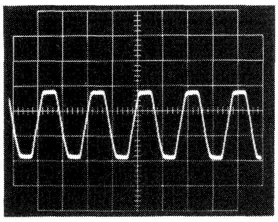
⑥ PIN22 REC/PB
1V/20μs. div.



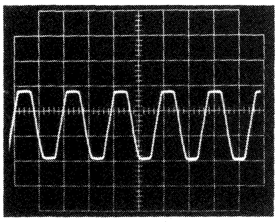
⑦ PIN28 REC/PB
0.5V/1ms. div.



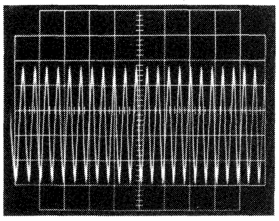
⑧ PIN29 REC/PB
0.5V/1ms. div.



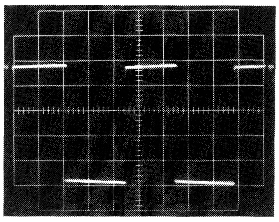
⑨ PIN30 REC/PB
1V/1ms. div.



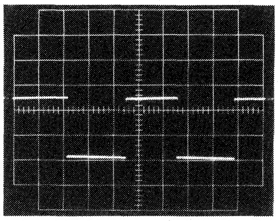
⑩ PIN32 REC/PB
50mV/0.5μs. div.



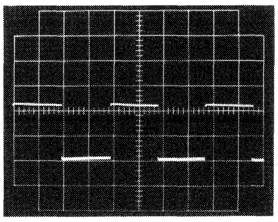
⑪ PIN42 REC/PB
1V/0.1ms. div.



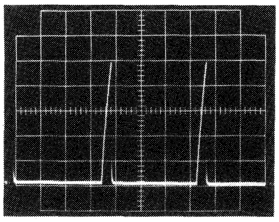
⑫ PIN43 REC/PB
2V/0.1ms. div.



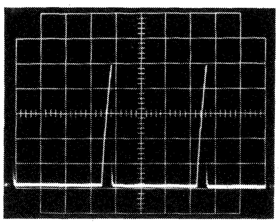
⑬ PIN44 REC/PB
2V/10ms. div.



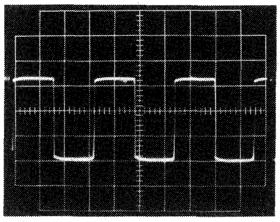
⑭ PIN45 REC/PB
0.5V/5ms. div.



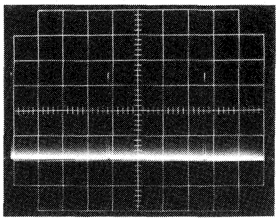
⑮ PIN46 REC/PB
0.5V/5ms. div.



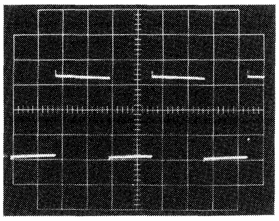
⑯ PIN50 REC/PB
1V/1ms. div.



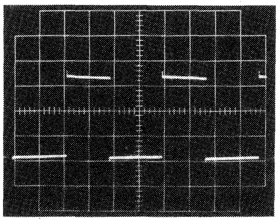
⑰ PIN53 REC/PB
1V/5ms. div.



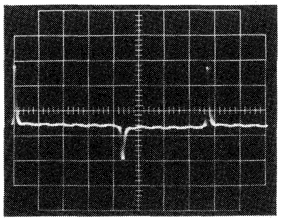
⑱ PIN59 REC
1V/10ms. div.



⑲ PIN60 REC
1V/10ms. div.

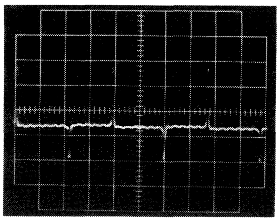


⑳ PIN62 PB
1V/5ms. div.



[IC601]

㉑ PIN63 PB
1V/10ms. div.



SCHEMATIC DIAGRAM	PAGE VT-125E/VT-135E
INTERNAL WIRING DIAGRAM	5-2 /5-2
IF UNIT	5-4 /5-4
TUNER UNIT	5-6 /5-6
V·S TUNING	5-10/5-10
Y/EQUALIZER	5-34/5-34
VPS	5-40/5-40
TIMER/OPERATION SWITCH	5-6 /5-6
SYSTEM CONTROL	5-45/5-54
REMOTE CONTROL	5-16/5-16
AUDIO/REAR JACK	5-42/5-57
RF CONVERTER	5-22/5-22
PREAMP	5-29/5-29
SERVO	5-35/5-62
Y/CHROMA	5-23/5-23
REGULATOR/CYLINDER MOTOR DRIVE	5-18/5-18

REPLAC

ELECTRIC

SYMBOL-NO
C 201
C 202
C 203
C 206
C 209
C 211
C 213
C 214
C 215
C 216
C 217
C 218
C 221
C 222
C 228
C 232
C 234
C 235
C 242
C 243
C 244
C 245
C 246
C 247
C 248
C 249
C 250
C 251
C 252
C 253
C 256
C 257
C 301
C 303
C 305
C 307
C 308
C 309
C 310
C 311
C 312
C 313
C 317
C 351
C 355
C 359
C 360
C 361
C 362
C 406
C 416

REPLACEMENT PARTS LIST (ERSATZTEILLISTE)

ELECTRICAL PARTS LIST [For VT-125E (VPS/VPSK)]

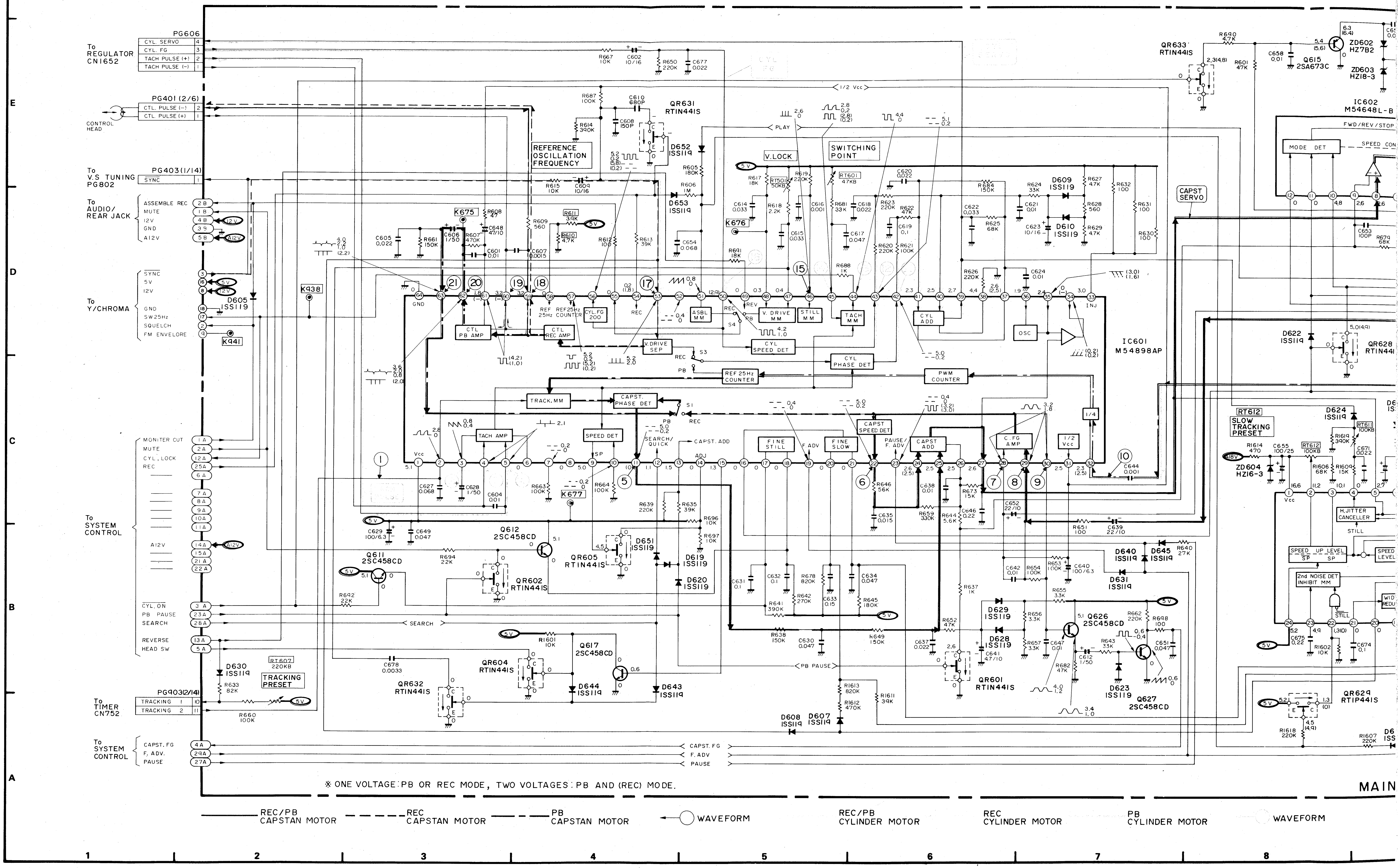
SYMBOL-NO	P-NO	DESCRIPTION
		CAPACITORS
C 201	0208374	CERAMIC DISC 10000PF+-20% 16V
C 202	0256613	ELECTROLYTIC 4.7UF 35V
C 203	0256614	ELECTROLYTIC 10UF 16V
C 206	0208375	CERAMIC DISC 22000PF+80-20% 25V
C 209	0208375	CERAMIC DISC 22000PF+80-20% 25V
C 211	0208355	CERAMIC DISC 39PF+-5% 50V
C 213	0256135	CAPACITOR 10UF 16V ELECTROLYTIC
C 214	0239357	CERAMIC DISC 56PF+-5% 50V
C 215	0239350	CERAMIC DISC 15PF+-5% 50V
C 216	0239355	CERAMIC DISC 39PF+-5% 50V
C 217	0256834	ELECTROLYTIC 10UF 16V
C 218	0208364	CERAMIC DISC 470PF+-10% 50V
C 221	0239361	CERAMIC DISC 150PF+-10% 50V
C 222	0208355	CERAMIC DISC 39PF+-5% 50V
C 228	0208375	CERAMIC DISC 22000PF+80-20% 25V
C 232	0208375	CERAMIC DISC 22000PF+80-20% 25V
C 234	0208375	CERAMIC DISC 22000PF+80-20% 25V
C 235	0208375	CERAMIC DISC 22000PF+80-20% 25V
C 242	0208374	CERAMIC DISC 10000PF+-20% 16V
C 243	0239375	CERAMIC DISC 10000PF+-20%
C 244	0208374	CERAMIC DISC 10000PF+-20% 16V
C 245	0239374	CERAMIC DISC 0.01UF+-20% 50V
C 246	0256613	ELECTROLYTIC 4.7UF 35V
C 247	0208354	CERAMIC DISC 33PF+-5% 50V
C 248	0208374	CERAMIC DISC 10000PF+-20% 16V
C 249	0208357	CERAMIC DISC 56PF+-5% 50V
C 250	0208359	CERAMIC DISC 82PF+-10%
C 251	0208350	CERAMIC DISC 15PF+-5% 50V
C 252	0256611	ELECTROLYTIC 0.33UF 50V
C 253	0239356	CERAMIC DISC 47PF+-5% 50V
C 256	0208374	CERAMIC DISC 10000PF+-20% 16V
C 257	0256194	ELECTROLYTIC 470MF,10V
C 301	0208351	CERAMIC DISC 18PF 50V
C 303	0256614	ELECTROLYTIC 10UF 16V
C 305	0256194	ELECTROLYTIC 470MF,10V
C 307	0256614	ELECTROLYTIC 10UF 16V
C 308	0256614	ELECTROLYTIC 10UF 16V
C 309	0208365	CERAMIC DISC 680PF+-10% 50V
C 310	0208362	CERAMIC DISC 220PF+-10% 50V
C 311	0208374	CERAMIC DISC 10000PF+-20% 16V
C 312	0239363	CERAMIC DISC 330PF+-10%
C 313	0208352	CERAMIC DISC 22PF 50V
C 317	0208355	CERAMIC DISC 39PF+-5% 50V
C 351	0208374	CERAMIC DISC 10000PF+-20% 16V
C 355	0208375	CERAMIC DISC 22000PF+80-20% 25V
C 359	0208375	CERAMIC DISC 22000PF+80-20% 25V
C 360	0208358	CERAMIC DISC 68PF+-5% 50V
C 361	0256614	ELECTROLYTIC 10UF 16V
C 362	0256613	ELECTROLYTIC 4.7UF 35V
C 406	0256606	ELECTROLYTIC 1MF,50V
C 416	0208367	CERAMIC DISC 1000PF+-10% 50V
C 419	0256622	ELECTROLYTIC 33UF 16V
C 422	0256196	CAPACITOR 100UF 16V ELECTROLYTIC
C 423	0208374	CERAMIC DISC 10000PF+-20% 16V
C 425	0256196	CAPACITOR 100UF 16V ELECTROLYTIC
C 426	0208374	CERAMIC DISC 10000PF+-20% 16V
C 428	0239365	CERAMIC DISC 680PF+-10% 50V
C 430	0256622	ELECTROLYTIC 33UF 16V
C 431	0208374	CERAMIC DISC 10000PF+-20% 16V
C 433	0256614	ELECTROLYTIC 10UF 16V
C 434	0256606	ELECTROLYTIC 1MF,50V
C 451	0256627	ELECTROLYTIC 47MF,16V
C 452	0208375	CERAMIC DISC 22000PF+80-20% 25V
C 502	0208374	CERAMIC DISC 10000PF+-20% 16V
C 506	0208374	CERAMIC DISC 10000PF+-20% 16V
C 507	0256614	ELECTROLYTIC 10UF 16V
C 508	0208374	CERAMIC DISC 10000PF+-20% 16V
C 510	0208374	CERAMIC DISC 10000PF+-20% 16V
C 512	0208374	CERAMIC DISC 10000PF+-20% 16V
C 513	0256789	CAPACITOR 470UF 10V ELECTROLYTIC
C 519	0256135	CAPACITOR 10UF 16V ELECTROLYTIC
C 523	0208374	CERAMIC DISC 10000PF+-20% 16V
C 524	0256782	CAPACITOR 220UF 10V ELECTROLYTIC
C 527	0208374	CERAMIC DISC 10000PF+-20% 16V
C 529	0208374	CERAMIC DISC 10000PF+-20% 16V
C 604	0208374	CERAMIC DISC 10000PF+-20% 16V
C 606	0256606	ELECTROLYTIC 1MF,50V
C 607	0208368	CERAMIC DISC 1500PF+-20% 50V
C 608	0208365	CERAMIC DISC 680PF+-10% 50V
C 616	0208367	CERAMIC DISC 1000PF+-10% 50V
C 618	0208375	CERAMIC DISC 22000PF+80-20% 25V
C 620	0208375	CERAMIC DISC 22000PF+80-20% 25V
C 621	0208374	CERAMIC DISC 10000PF+-20% 16V
C 624	0208374	CERAMIC DISC 10000PF+-20% 16V
C 637	0208375	CERAMIC DISC 22000PF+80-20% 25V
C 638	0208374	CERAMIC DISC 10000PF+-20% 16V
C 641	0256475	TANTALUM 4.7UF+-30% 10V
C 642	0208374	CERAMIC DISC 10000PF+-20% 16V
C 644	0208367	CERAMIC DISC 1000PF+-10% 50V
C 652	0256617	ELECTROLYTIC 22MF,10V
C 653	0208360	CERAMIC DISC 100PF+-10% 50V
C 656	0208374	CERAMIC DISC 10000PF+-20% 16V
C 657	0208374	CERAMIC DISC 10000PF+-20% 16V
C 658	0208374	CERAMIC DISC 10000PF+-20% 16V
C 677	0208375	CERAMIC DISC 22000PF+80-20% 25V
C 751	0256488	CAPACITOR 22UF 5V
C 752	0256626	ELECTROLYTIC 47UF 6.3V
C 753	0208374	CERAMIC DISC 10000PF+-20% 16V
C 754	0256626	ELECTROLYTIC 47UF 6.3V
C 755	0208374	CERAMIC DISC 10000PF+-20% 16V
C 756	0256606	ELECTROLYTIC 1MF,50V
C 757	0256612	ELECTROLYTIC 0.47UF 50V
C 759	0208375	CERAMIC DISC 22000PF+80-20% 25V

REPLACEMENT PARTS LIST (ERSATZTEILLISTE)

ELECTRICAL PARTS LIST [For VT-125E (VPS/VPSK)]

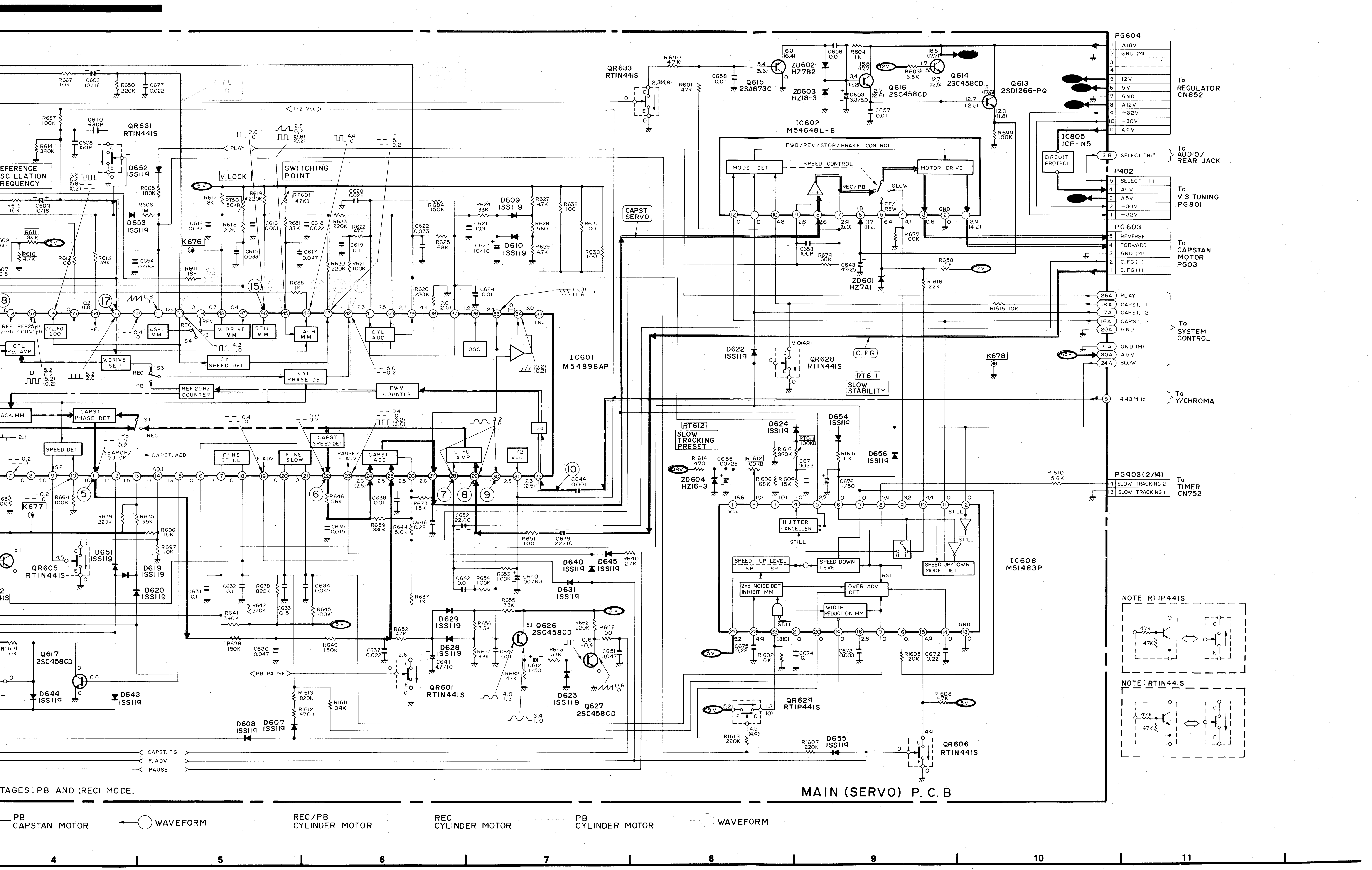
SYMBOL-NO	P-NO	DESCRIPTION
		CAPACITORS
C 201	0208374	CERAMIC DISC 10000PF+-20% 16V
C 202	0256613	ELECTROLYTIC 4.7UF 35V
C 203	0256614	ELECTROLYTIC 10UF 16V
C 206	0208375	CERAMIC DISC 22000PF+80-20% 25V
C 209	0208375	CERAMIC DISC 22000PF+80-20% 25V
C 211	0208355	CERAMIC DISC 39PF+-5% 50V
C 213	0256135	CAPACITOR 10UF 16V ELECTROLYTIC
C 214	0239357	CERAMIC DISC 56PF+-5% 50V
C 215	0239350	CERAMIC DISC 15PF+-5% 50V
C 216	0239355	CERAMIC DISC 39PF+-5% 50V
C 217	0256834	ELECTROLYTIC 10UF 16V
C 218	0208364	CERAMIC DISC 470PF+-10% 50V
C 221	0239361	CERAMIC DISC 150PF+-10% 50V
C 222	0208355	CERAMIC DISC 39PF+-5% 50V
C 228	0208375	CERAMIC DISC 22000PF+80-20% 25V
C 232	0208375	CERAMIC DISC 22000PF+80-20% 25V
C 234	0208375	CERAMIC DISC 22000PF+80-20% 25V
C 235	0208375	CERAMIC DISC 22000PF+80-20% 25V
C 242	0208374	CERAMIC DISC 10000PF+-20% 16V
C 243	0239375	CERAMIC DISC 10000PF+-20%
C 244	0208374	CERAMIC DISC 10000PF+-20% 16V
C 245	0239374	CERAMIC DISC 0.01UF+-20% 50V
C 246	0256613	ELECTROLYTIC 4.7UF 35V
C 247	0208354	CERAMIC DISC 33PF+-5% 50V
C 248	0208374	CERAMIC DISC 10000PF+-20% 16V
C 249	0208357	CERAMIC DISC 56PF+-5% 50V
C 250	0208359	CERAMIC DISC 82PF+-10%
C 251	0208350	CERAMIC DISC 15PF+-5% 50V
C 252	0256611	ELECTROLYTIC 0.33UF 50V
C 253	0239356	CERAMIC DISC 47PF+-5% 50V
C 256	0208374	CERAMIC DISC 10000PF+-20% 16V
C 257	0256194	ELECTROLYTIC 470MF,10V
C 301	0208351	CERAMIC DISC 18PF 50V
C 303	0256614	ELECTROLYTIC 10UF 16V
C 305	0256194	ELECTROLYTIC 470MF,10V
C 307	0256614	ELECTROLYTIC 10UF 16V
C 308	0256614	ELECTROLYTIC 10UF 16V
C 309	0208365	CERAMIC DISC 680PF+-10% 50V
C 310	0208362	CERAMIC DISC 220PF+-10% 50V
C 311	0208374	CERAMIC DISC 10000PF+-20% 16V
C 312	0239363	CERAMIC DISC 330PF+-10%
C 313	0208352	CERAMIC DISC 22PF 50V
C 317	0208355	CERAMIC DISC 39PF+-5% 50V
C 351	0208374	CERAMIC DISC 10000PF+-20% 16V
C 355	0208375	CERAMIC DISC 22000PF+80-20% 25V
C 359	0208375	CERAMIC DISC 22000PF+80-20% 25V
C 360	0208358	CERAMIC DISC 68PF+-5% 50V
C 361	0256614	ELECTROLYTIC 10UF 16V
C 362	0256613	ELECTROLYTIC 4.7UF 35V
C 406	0256606	ELECTROLYTIC 1MF,50V
C 416	0208367	CERAMIC DISC 1000PF+-10% 50V
C 419	0256622	ELECTROLYTIC 33UF 16V
C 422	0256196	CAPACITOR 100UF 16V ELECTROLYTIC
C 423	0208374	CERAMIC DISC 10000PF+-20% 16V
C 425	0256196	CAPACITOR 100UF 16V ELECTROLYTIC
C 426	0208374	CERAMIC DISC 10000PF+-20% 16V
C 428	0239365	CERAMIC DISC 680PF+-10% 50V
C 430	0256622	ELECTROLYTIC 33UF 16V
C 431	0208374	CERAMIC DISC 10000PF+-20% 16V
C 433	0256614	ELECTROLYTIC 10UF 16V
C 434	0256606	ELECTROLYTIC 1MF,50V
C 451	0256627	ELECTROLYTIC 47MF,16V
C 452	0208375	CERAMIC DISC 22000PF+80-20% 25V
C 502	0208374	CERAMIC DISC 10000PF+-20% 16V
C 506	0208374	CERAMIC DISC 10000PF+-20% 16V
C 507	0256614	ELECTROLYTIC 10UF 16V
C 508	0208374	CERAMIC DISC 10000PF+-20% 16V
C 510	0208374	CERAMIC DISC 10000PF+-20% 16V
C 512	0208374	CERAMIC DISC 10000PF+-20% 16V
C 513	0256789	CAPACITOR 470UF 10V ELECTROLYTIC
C 519	0256135	CAPACITOR 10UF 16V ELECTROLYTIC
C 523	0208374	CERAMIC DISC 10000PF+-20% 16V
C 524	0256782	CAPACITOR 220UF 10V ELECTROLYTIC
C 527	0208374	CERAMIC DISC 10000PF+-20% 16V
C 529	0208374	CERAMIC DISC 10000PF+-20% 16V
C 604	0208374	CERAMIC DISC 10000PF+-20% 16V
C 606	0256606	ELECTROLYTIC 1MF,50V
C 607	0208368	CERAMIC DISC 1500PF+-20% 50V
C 608	0208365	CERAMIC DISC 680PF+-10% 50V
C 616	0208367	CERAMIC DISC 1000PF+-10% 50V
C 618	0208375	CERAMIC DISC 22000PF+80-20% 25V
C 620	0208375	CERAMIC DISC 22000PF+80-20% 25V
C 621	0208374	CERAMIC DISC 10000PF+-20% 16V
C 624	0208374	CERAMIC DISC 10000PF+-20% 16V
C 637	0208375	CERAMIC DISC 22000PF+80-20% 25V
C 638	0208374	CERAMIC DISC 10000PF+-20% 16V
C 641	0256475	TANTALUM 4.7UF+-30% 10V
C 642	0208374	CERAMIC DISC 10000PF+-20% 16V
C 644	0208367	CERAMIC DISC 1000PF+-10% 50V
C 652	0256617	ELECTROLYTIC 22MF,10V
C 653	0208360	CERAMIC DISC 100PF+-10% 50V
C 656	0208374	CERAMIC DISC 10000PF+-20% 16V
C 657	0208374	CERAMIC DISC 10000PF+-20% 16V
C 658	0208374	CERAMIC DISC 10000PF+-20% 16V
C 677	0208375	CERAMIC DISC 22000PF+80-20% 25V
C 751	0256488	CAPACITOR 22UF 5V
C 752	0256626	ELECTROLYTIC 47UF 6.3V
C 753	0208374	CERAMIC DISC 10000PF+-20% 16V
C 754	0256626	ELECTROLYTIC 47UF 6.3V
C 755	0208374	CERAMIC DISC 10000PF+-20% 16V
C 756	0256606	ELECTROLYTIC 1MF,50V
C 757	0256612	ELECTROLYTIC 0.47UF 50V
C 759	0208375	CERAMIC DISC 22000PF+80-20% 25V

SERVO VT-135E (VPS)


To REGULATOR CN1652
PG606
CYL. SERVO
CYL. FG
TACH PULSE (+)
TACH PULSE (−)
CONTROL HEAD
PG401 (2/6)
CTL. PULSE (−)
CTL. PULSE (+)
To V.S TUNING PG802
PG403 (1/14)
SYNC
To AUDIO/ REAR JACK
ASSEMBLE REC
MUTE
12V
GND
A12V
To Y/CHROMA
SW25Hz
SQUELCH
FM ENVELORE
To SYSTEM CONTROL
MONITER CUT
CYL. LOCK
REC
CYL. ON
PB PAUSE
SEARCH
REVERSE
HEAD SW
To TIMER CN752
PG903 (2/14)
TRACKING 1
TRACKING 2
CAPST. FG
F. ADV
PAUSE
REFERENCE OSCILLATION FREQUENCY
V. LOCK
SWITCHING POINT
IC601 M54898AP
CTL PB AMP
CTL REC AMP
V. DRIVE SEP
CYL. SPEED DET
CYL PHASE DET
REF 25Hz COUNTER
PWM COUNTER
TRACK. MM
CAPST. PHASE DET
TACH AMP
SPEED DET
SEARCH/ QUICK
FINE STILL
FINE SLOW
CAPST SPEED DET
CAPST ADD
C.FG AMP
1/2 Vcc
1/4
OSC
CYL ADD
TACH MM
STILL MM
V. DRIVE MM
ASBL MM
CYL. FG 200
RT601 47KB
RT607 220KB
TRACKING PRESET
RT612 SLOW TRACKING PRESET
CAPST SERVO
IC602 M54648L-B
MODE DET
FWD/REV/STOP
SPEED CON
H. JITTER CANCELLER
SPEED UP LEVEL SP SP
2nd NOISE DET INHIBIT MM
QR631 RTIN441S
QR633 RTIN441S
QR628 RTIN441
QR629 RTIP441S
QR605 RTIN441S
QR602 RTIN441S
QR604 RTIN441S
QR632 RTIN441S
QR601 RTIN441S
Q611 2SC458CD
Q612 2SC458CD
Q617 2SC458CD
Q626 2SC458CD
Q627 2SC458CD
Q615 2SA673C
ZD602 HZ7B2
ZD603 HZ18-3
ZD604 HZ16-3
MAIN

※ ONE VOLTAGE: PB OR REC MODE, TWO VOLTAGES: PB AND (REC) MODE.

REC/PB CAPSTAN MOTOR
REC CAPSTAN MOTOR
PB CAPSTAN MOTOR
WAVEFORM
REC/PB CYLINDER MOTOR
REC CYLINDER MOTOR
PB CYLINDER MOTOR
WAVEFORM


MAIN (SERVO) P.C.B
IC601
M54898AP
IC602
M54648L-B
IC608
M51483P
IC805
ICP-N5
CIRCUIT PROTECT
PG604
A18V
GND (M)
12V
5V
GND
A12V
+32V
-30V
A9V
To REGULATOR CN852
SELECT "Hi"
To AUDIO/ REAR JACK
P402
To V.S TUNING PG801
PG603
REVERSE
FORWARD
GND (M)
C.FG (-)
C.FG (+)
To CAPSTAN MOTOR PG03
PLAY
CAPST. 1
CAPST. 2
CAPST. 3
GND
To SYSTEM CONTROL
GND (M)
A5V
SLOW
4.43 MHz
To Y/CHROMA
PG903(2/14)
SLOW TRACKING 2
SLOW TRACKING 1
To TIMER CN752
FWD/REV/STOP/BRAKE CONTROL
MODE DET
SPEED CONTROL
MOTOR DRIVE
REC/PB
SLOW
FF/REW
CAPST SERVO
C.FG
RT611
SLOW STABILITY
RT612
SLOW TRACKING PRESET
H.JITTER CANCELLER
STILL
SPEED UP LEVEL
SPEED DOWN LEVEL
SPEED UP/DOWN MODE DET
2nd NOISE DET INHIBIT MM
OVER ADV DET
WIDTH REDUCTION MM
RST
REFERENCE OSCILLATION FREQUENCY
V.LOCK
SWITCHING POINT
RT501
RT601
K676
K677
K678
PLAY
1/2 Vcc
REF 25Hz COUNTER
CYL.FG 200
ASBL MM
V. DRIVE MM
STILL MM
TACH MM
CYL ADD
OSC
CTL REC AMP
V.DRIVE SEP
CYL SPEED DET
CYL PHASE DET
REF 25Hz COUNTER
PWM COUNTER
1/4
CAPST. PHASE DET
SPEED DET
SEARCH/ QUICK
CAPST. ADD
FINE STILL
F.ADV
FINE SLOW
CAPST SPEED DET
PAUSE/ F.ADV
CAPST ADD
C.FG AMP
1/2 Vcc
PB PAUSE
CAPST. FG
F.ADV
PAUSE
QR631 RTIN441S
QR633 RTIN441S
Q615 2SA673C
ZD602 HZ7B2
ZD603 HZ18-3
Q616 2SC458CD
Q614 2SC458CD
Q613 2SD1266-PQ
QR628 RTIN441S
QR605 RTIN441S
Q617 2SC458CD
QR601 RTIN441S
Q626 2SC458CD
Q627 2SC458CD
QR629 RTIP441S
QR606 RTIN441S
ZD601 HZ7A1
ZD604 HZ16-3
NOTE: RTIP441S
NOTE: RTIN441S
TAGES: PB AND (REC) MODE.
PB CAPSTAN MOTOR
WAVEFORM
REC/PB CYLINDER MOTOR
REC CYLINDER MOTOR
PB CYLINDER MOTOR
WAVEFORM
4
5
6
7
8
9
10
11

SYMBOL-NO	P-NO	DESCRIPTION
C 760	0256626	ELECTROLYTIC 47UF 6.3V
C 761	0256612	ELECTROLYTIC 0.47UF 50V
C 763	0208348	CERAMIC DISC 10PF+-5% 50V
C 770	5058562	TRIMMER 22PF
C 801	0208357	CERAMIC DISC 56PF+-5% 50V
C 805	0208374	CERAMIC DISC 10000PF+-20% 16V
C 806	0256629	ELECTROLYTIC 47UF 50V
C 810	0208374	CERAMIC DISC 10000PF+-20% 16V
C 814	0256614	ELECTROLYTIC 10UF 16V
C 815	0208363	CERAMIC DISC 330PF+-10% 50V
C 816	0208354	CERAMIC DISC 33PF+-5% 50V
C 817	0208354	CERAMIC DISC 33PF+-5% 50V
C 819	0208374	CERAMIC DISC 10000PF+-20% 16V
C 821	0208374	CERAMIC DISC 10000PF+-20% 16V
C 825	0256180	CAPACITOR 1UF 50V ELECTROLYTIC
C 830	0208374	CERAMIC DISC 10000PF+-20% 16V
C 854	0256657	ELECTROLYTIC 4700UF 35V
C 856	0256635	ELECTROLYTIC 220UF 50V
C 860	0256607	ELECTROLYTIC 47UF 25V
C 861	0256607	ELECTROLYTIC 47UF 25V
C 863	0256627	ELECTROLYTIC 47MF.16V
C 864	0256627	ELECTROLYTIC 47MF.16V
C 865	0256627	ELECTROLYTIC 47MF.16V
C 867	0256627	ELECTROLYTIC 47MF.16V
C 901	0208374	CERAMIC DISC 10000PF+-20% 16V
C 902	0208375	CERAMIC DISC 22000PF+80-20% 25V
C 903	0208375	CERAMIC DISC 22000PF+80-20% 25V
C 904	0208374	CERAMIC DISC 10000PF+-20% 16V
C 906	0208374	CERAMIC DISC 10000PF+-20% 16V
C 907	0208375	CERAMIC DISC 22000PF+80-20% 25V
C 908	0208374	CERAMIC DISC 10000PF+-20% 16V
C 909	0208354	CERAMIC DISC 33PF+-5% 50V
C 910	0208354	CERAMIC DISC 33PF+-5% 50V
C 912	0208374	CERAMIC DISC 10000PF+-20% 16V
C 913	0208374	CERAMIC DISC 10000PF+-20% 16V
C 921	0208375	CERAMIC DISC 22000PF+80-20% 25V
C 922	0208375	CERAMIC DISC 22000PF+80-20% 25V
C 923	0208375	CERAMIC DISC 22000PF+80-20% 25V
C1114	02086943	CERAMIC DISC 270PF+-5%,50V
C1118	02086943	CAPACITOR (22PF+-5% 50V) CERAMIC DISC
C1202	0208375	CERAMIC DISC 22000PF+80-20% 25V
C1204	0208375	CERAMIC DISC 22000PF+80-20% 25V
C1205	0208690	CERAMIC DISC 180PF+-5% 50V
C1208	02086863	CAPACITOR (120PF+-5% 50V) CERAMIC DISC
C1210	0208448	CERAMIC DISC 22PF+-5% 50V
C1211	0208430	CERAMIC DISC 10PF+-5% 50V
C1212	0208375	CERAMIC DISC 22000PF+80-20% 25V
C1655	0256196	CAPACITOR 100UF 16V ELECTROLYTIC
C1657	0256618	ELECTROLYTIC 22UF 25V
C1658	0256618	ELECTROLYTIC 22UF 25V
C1659	0256618	ELECTROLYTIC 22UF 25V
C1660	0256618	ELECTROLYTIC 22UF 25V

SYMBOL-NO	P-NO	DESCRIPTION
C1661	0256618	ELECTROLYTIC 22UF 25V
C1662	0256618	ELECTROLYTIC 22UF 25V
C1663	0256618	ELECTROLYTIC 22UF 25V
		RESISTORS
R 305	0171015	METAL FILM 68OHM+-5% 1W
R 602	0249681	POSISTOR 4.7OHM
RT 201	5007445	SEMI VARIABLE 2.2KOHM
RT 301	5007434	RESISTOR SEMI VARIABLE 4.7K OHM
RT 351	5007431	RESISTOR SEMI VARIABLE 470 OHM
RT 401	5007899	SEMI VARIABLE 47KOHM
RT 402	5007901	SEMI VARIABLE 100KOHM
RT 501	5009145	VARIABLE RESISTOR 50KOHM
RT 601	5007899	SEMI VARIABLE 47KOHM
RT 607	5007902	SEMI VARIABLE 220KOHM
RV 751	5027225	RESISTOR VARIABLE 10KOHM
RV 752	5009131	VARIABLE 500KOHM
R1656	0149705	METAL OXIDE 0.47OHM+-5% 1/2W
		SEMI-CONDUCTORS
D 201	5339071	DIODE 1SS119-T
D 202	5330571	DIODE 1S2473VE SI 100MHZ 250MW 10NS
D 203	5330571	DIODE 1S2473VE SI 100MHZ 250MW 10NS
D 301	5339071	DIODE 1SS119-T
D 302	5331592	DIODE 1SS133
D 303	5339071	DIODE 1SS119-T
D 401	5339091	DIODE DAN209S
D 402	5339131	DIODE 1SS254
D 403	5339071	DIODE 1SS119-T
D 404	5339071	DIODE 1SS119-T
D 502	5339071	DIODE 1SS119-T
D 503	5339071	DIODE 1SS119-T
D 504	5339071	DIODE 1SS119-T
D 505	5339071	DIODE 1SS119-T
D 506	5339071	DIODE 1SS119-T
D 507	5339071	DIODE 1SS119-T
D 508	5332681	DIODE 1SS 119-P
D 605	5339071	DIODE 1SS119-T
D 609	5339071	DIODE 1SS119-T
D 610	5339071	DIODE 1SS119-T
D 619	5339071	DIODE 1SS119-T
D 620	5339071	DIODE 1SS119-T
D 622	5339071	DIODE 1SS119-T
D 623	5339071	DIODE 1SS119-T
D 628	5339071	DIODE 1SS119-T
D 629	5339071	DIODE 1SS119-T
D 631	5339071	DIODE 1SS119-T
D 640	5339071	DIODE 1SS119-T
D 645	5339071	DIODE 1SS119-T
D 651	5339071	DIODE 1SS119-T
D 652	5339071	DIODE 1SS119-T
D 653	5339071	DIODE 1SS119-T

SYMBOL-NO	P-NO	DESCRIPTION
D 751	5339021	DIODE 1SS133
D 752	5339021	DIODE 1SS133
D 753	5339021	DIODE 1SS133
D 754	5331592	DIODE 1SS133
D 760	5331592	DIODE 1SS133
D 764	5381211	LED SEL-2213C
D 801	5332681	DIODE 1SS 119-P
D 802	5339071	DIODE 1SS119-T
D 803	5339071	DIODE 1SS119-T
D 804	5339071	DIODE 1SS119-T
D 805	5339071	DIODE 1SS119-T
D 806	5339071	DIODE 1SS119-T
D 851	5332741	DIODE D3SB10
D 852	5331671	DIODE DS135D-FA3
D 853	5331671	DIODE DS135D-FA3
D 854	5331671	DIODE DS135D-FA3
D 855	5331671	DIODE DS135D-FA3
D 856	5331671	DIODE DS135D-FA3
D 857	5331671	DIODE DS135D-FA3
D 858	53315883	DIODE RD2.7E-B2 ZENER
D 861	5331671	DIODE DS135D-FA3
D 862	5331671	DIODE DS135D-FA3
D 864	53390213	DIODE 1SS133T
D 865	5330571	DIODE 1S2473VE SI 100MHZ 250MW 10NS
D 866	5331592	DIODE 1SS133
D 903	5339071	DIODE 1SS119-T
D 904	5339071	DIODE 1SS119-T
D 914	5339071	DIODE 1SS119-T
IC 201	5370821	IC HT4495
IC 203	5370845	IC HT4727D
IC 204	5362262	IC MSM6965RS
IC 205	5370501	IC HT4708
IC 301	5370273	IC HT4539B
IC 303	5366641	IC BA7025L
IC 401	5366331	IC UPC1533HA
IC 402	5364931	IC BA5115L
IC 403	5369431	IC LA7016
IC 501	5369431	IC LA7016
IC 505	5721802	IC PROTECTER
IC 601	5367302	IC M54898AP
IC 602	5369915	IC M5468L-D
IC 751	5368685	IC HD614085SA30
IC 801	5361834	IC M50161-354SP
IC 802	5366132	IC LA7934
IC 803	5361071	IC M58657P
IC 804	5721802	IC PROTECTER
IC 805	5721802	IC PROTECTER
IC 851	5353651	IC STK-5471
IC 901	5361812	IC HD614042SD37
IC 902	5367111	IC M54649L
IC 903	5365673	IC NJM2901N
IC1101	5367211	IC SAA5235
IC1102	5362241	IC SAF1134P
IC1651	5355582	IC HA13403
Q 201	5327062	TRANSISTOR 2SC1740S-R
Q 202	5321255	TRANSISTOR 2SA844CD SILICON 200MHZ 0.3W
Q 203	5321292	TRANSISTOR 2SC1740S SILICON 250MHZ 0.3W
Q 205	5321292	TRANSISTOR 2SC1740S SILICON 250MHZ 0.3W
Q 206	5321255	TRANSISTOR 2SA844CD SILICON 200MHZ 0.3W
Q 207	0573511	TRANSISTOR 2SC535C SILICON 700MHZ 100MW
Q 208	5321255	TRANSISTOR 2SA844CD SILICON 200MHZ 0.3W
Q 209	5322732	TRANSISTOR 2SA952ML2
Q 210	5321292	TRANSISTOR 2SC1740S SILICON 250MHZ 0.3W
Q 211	5321292	TRANSISTOR 2SC1740S SILICON 250MHZ 0.3W
Q 212	5327062	TRANSISTOR 2SC1740S-R
Q 213	5327062	TRANSISTOR 2SC1740S-R
Q 214	5321255	TRANSISTOR 2SA844CD SILICON 200MHZ 0.3W
Q 215	5321255	TRANSISTOR 2SA844CD SILICON 200MHZ 0.3W
Q 401	5327101	TRANSISTER 2SC3553BC
Q 402	5327031	TRANSISTOR 2SA673C
Q 431	5327031	TRANSISTOR 2SA673C
Q 502	5327031	TRANSISTOR 2SA673C
Q 504	5322732	TRANSISTOR 2SA952ML2
Q 505	5320069	TRANSISTOR 2SC458CD SILICON 230MHZ 0.2W
Q 611	5320069	TRANSISTOR 2SC458CD SILICON 230MHZ 0.2W
Q 612	5327001	TRANSISTOR 2SC458CD
Q 613	53234613	TRANSISTOR 2SD1266PQ
Q 614	5320069	TRANSISTOR 2SC458CD SILICON 230MHZ 0.2W
Q 615	5327031	TRANSISTOR 2SA673C
Q 616	5327001	TRANSISTOR 2SC458CD
Q 626	5320069	TRANSISTOR 2SC458CD SILICON 230MHZ 0.2W
Q 627	5327001	TRANSISTOR 2SC458CD
Q 751	5321663	TRANSISTOR 2SC2021SR
Q 754	5321663	TRANSISTOR 2SC2021SR
Q 755	5321663	TRANSISTOR 2SC2021SR
Q 802	5323902	TRANSISTOR 2SC1740-S
Q 803	5320069	TRANSISTOR 2SC458CD SILICON 230MHZ 0.2W
Q 808	5321214	TRANSISTOR 2SD468BC SILICON 190MHZ 0.9W
Q 810	5327031	TRANSISTOR 2SA673C
Q 811	5327031	TRANSISTOR 2SA673C
Q 814	5327062	TRANSISTOR 2SC1740S-R
Q 851	5323331	TRANSISTOR 2SB772Q
Q 904	5327001	TRANSISTOR 2SC458CD
QR 201	5327081	TRANSISTOR RT1N241S
QR 202	5327081	TRANSISTOR RT1N241S
QR 203	5327081	TRANSISTOR RT1N241S
QR 204	5324093	TRANSISTOR RT1P241S
QR 205	5324091	TRANSISTOR RT1N241S
QR 206	5324091	TRANSISTOR RT1N241S
QR 207	5327083	TRANSISTER RT1P241S
QR 210	5324093	TRANSISTOR RT1P241S
QR 211	5324091	TRANSISTOR RT1N241S
QR 432	5327081	TRANSISTOR RT1N241S
QR 501	5324094	TRANSISTOR RT1P441S

SYMBOL-NO	P-NO	DESCRIPTION
QR 502	5327082	TRANSISTOR RT1N441S
QR 505	5327082	TRANSISTOR RT1N441S
QR 506	5327082	TRANSISTOR RT1N441S
QR 601	5327082	TRANSISTOR RT1N441S
QR 602	5327082	TRANSISTOR RT1N441S
QR 605	5327082	TRANSISTOR RT1N441S
QR 628	5324092	TRANSISTOR RT1N441S
QR 631	5324092	TRANSISTOR RT1N441S
QR 758	5324092	TRANSISTOR RT1N441S
QR 801	5324092	TRANSISTOR RT1N441S
QR 804	5324092	TRANSISTOR RT1N441S
QR 812	5324092	TRANSISTOR RT1N441S
QR 852	5324091	TRANSISTOR RT1N241S
Q1102	5321255	TRANSISTOR 2SA844CD SILICON 200MHZ 0.3W
Q1103	5320069	TRANSISTOR 2SC458CD SILICON 230MHZ 0.2W
Q1201	5321663	TRANSISTOR 2SC2021SR
Q1202	5321663	TRANSISTOR 2SC2021SR
Q1203	5322993	TRANSISTOR 2SA937QR SILICON
Q1204	0573511	TRANSISTOR 2SC535C SILICON 700MHZ 100MW
ZD 201	5331014	DIODE HZ5A SI ZENER
ZD 601	53303173	DIODE HZ-7A-1 ZENNER
ZD 602	5330318	DIODE HZ7B2 SI ZENER 1MHZ 0.4W
ZD 603	5331271	DIODE HZ18-3
ZD 751	5332633	DIODE RD4R7JSB1-2
ZD 752	5330322	DIODE HZ9B SI ZENER 1MHZ 0.4W
ZD 753	53315883	DIODE RD2.7E-B2 ZENNER
ZD 801	5350611	IC UPC574J
ZD 802	5339102	DIODE HZ5A
ZD 803	5331274	DIODE ZENNER
		TRANSFORHERS
T 401	5262531	BIAS COIL
		COILS
L 201	5152333	CHOKE COIL 47UH+-10%
L 203	5152337	CHOKE COIL 100UH+-10%
L 204	5152339	CHOKE COIL 150UH+-10%
L 205	5153036	CHOKE COIL 27UH
L 206	5152324	CHOKE COIL 10UH+-10%
L 207	5159082	CHOKE COIL 220UH+-10%
L 208	5152342	CHOKE COIL 220UH+-10%
L 209	5159152	CHOKE COIL 68UH
L 210	5153003	CHOKE COIL 15UH
L 212	5159145	CHOKE COIL 22UH
L 213	5159141	CHOKE COIL 10UH
L 214	5153001	CHOKE COIL 10UH
L 301	5152332	CHOKE COIL 39UH+-10%
L 302	5150577	CHOCK COIL 12MH
L 303	5159064	CHOKE COIL 10UH+-10%
L 304	5159146	CHOKE COIL 27UH
L 305	5152326	CHOKE COIL 15UH+-10%

SYMBOL-NO	P-NO	DESCRIPTION
L 306	5152342	CHOKE COIL 220UH+-10%
L 351	5120849	TRAP COIL
L 352	5152337	CHOKE COIL 100UH+-10%
L 401	5152349	CHOKE COIL 820MH
L 403	5152971	CHOKE COIL
L 404	5152971	CHOKE COIL
L 501	5159158	CHOKE COIL 220UH
L 502	5159154	CHOKE COIL 100UH
L 503	5159154	CHOKE COIL 100UH
L 851	5273341	LINE FILTER
L 901	5159077	CHOKE COIL 100UH+-10%
L1101	5153031	CHOKE COIL 10UH
L1201	5159154	CHOKE COIL 100UH
L1202	5159154	CHOKE COIL 100UH
L1203	5159152	CHOKE COIL 68UH
L1205	5153032	CHOKE COIL 12UH
L1206	5159154	CHOKE COIL 100UH
		CRYSTALS
X 751	5781611	CRYSTAL
X 801	5781121	XTAL
X1101	5781631	CRYSTAL
		MISCELLANEOUS
BZ 799	5409271	BUZZER
CE 901	5781121	XTAL
CP 201	5123839	TRAP COIL
CP 202	5169002	HIGH PASS FILTER
CP 203	5169012	LOW PASS FILTER
CP 204	5169003	LOW PASS FILTER
CP 205	5169022	LOW PASS FILTER
CP 301	5785814	DELAY LINE
CP 302	5163082	BAND PASS FILTER
CP 351	5160431	BAND PASS FILTER
DG 751	5311772	TIMER DISPLAY
F 850	5720175	FUSE 0.8A
F 852	5721064	FUSE
F 852	5721064	FUSE
F 853	5720171	FUSE 315MA
S 143	5633362	PUSH SWITCH
S 144	5633362	PUSH SWITCH
S 501	5622462	SLIDE SWITCH
S 751	5635061	SWITCH
S 752	5635061	SWITCH
S 753	5635061	SWITCH
S 754	5635061	SWITCH
S 755	5635061	SWITCH
S 756	5635061	SWITCH
S 757	5635061	SWITCH
S 759	5635061	SWITCH
S 760	5635061	SWITCH
S 761	5635061	SWITCH

SYMBOL-NO	P-NO	DESCRIPTION	SYMBOL-NO	P-NO	DESCRIPTION
S 762	5635061	SWITCH	S 776	5635111	SMK CONNECTOR (V-10)
S 764	5635061	SWITCH	S 778	5635111	SMK CONNECTOR (V-10)
S 765	5635061	SWITCH	S 780	5635111	SMK CONNECTOR (V-10)
S 766	5635061	SWITCH	S 781	5635111	SMK CONNECTOR (V-10)
S 768	5635061	SWITCH	S 782	5635111	SMK CONNECTOR (V-10)
S 769	5635061	SWITCH	S 785	5635111	SMK CONNECTOR (V-10)
S 771	5635111	SMK CONNECTOR (V-10)	S 786	5635111	SMK CONNECTOR (V-10)
S 772	5635111	SMK CONNECTOR (V-10)	S 787	5635111	SMK CONNECTOR (V-10)
S 773	5635111	SMK CONNECTOR (V-10)	S 799	5622801	SWITCH
S 775	5635111	SMK CONNECTOR (V-10)			

REPLACEMENT PARTS LIST (ERSATZTEILLISTE)

ELECTRICAL PARTS LIST [For VT-135E (VPS)]

SYMBOL-NO	P-NO	DESCRIPTION
		CAPACITORS
C 201	0208374	CERAMIC DISC 10000PF+-20% 16V
C 202	0256613	ELECTROLYTIC 4.7UF 35V
C 206	0208375	CERAMIC DISC 22000PF+80-20% 25V
C 208	0207085	ELECTROLYTIC 47UF 10V
C 209	0208375	CERAMIC DISC 22000PF+80-20% 25V
C 211	0208355	CERAMIC DISC 39PF+-5% 50V
C 213	0256614	ELECTROLYTIC 10UF 16V
C 216	0208353	CERAMIC DISC 27PF+-5% 50V
C 217	0256834	ELECTROLYTIC 10UF 16V
C 218	0208364	CERAMIC DISC 470PF+-10% 50V
C 222	0208355	CERAMIC DISC 39PF+-5% 50V
C 223	0208352	CERAMIC DISC 22PF 50V
C 228	0208375	CERAMIC DISC 22000PF+80-20% 25V
C 230	0256606	ELECTROLYTIC 1MF,50V
C 232	0208375	CERAMIC DISC 22000PF+80-20% 25V
C 234	0208375	CERAMIC DISC 22000PF+80-20% 25V
C 235	0208375	CERAMIC DISC 22000PF+80-20% 25V
C 236	0256194	ELECTROLYTIC 470MF,10V
C 242	0208374	CERAMIC DISC 10000PF+-20% 16V
C 244	0208374	CERAMIC DISC 10000PF+-20% 16V
C 246	0256613	ELECTROLYTIC 4.7UF 35V
C 247	0208354	CERAMIC DISC 33PF+-5% 50V
C 248	0208374	CERAMIC DISC 10000PF+-20% 16V
C 249	0208357	CERAMIC DISC 56PF+-5% 50V
C 250	0208359	CERAMIC DISC 82PF+-10%
C 251	0208350	CERAMIC DISC 15PF+-5% 50V
C 252	0256611	ELECTROLYTIC 0.33UF 50V
C 256	0208374	CERAMIC DISC 10000PF+-20% 16V
C 257	0256194	ELECTROLYTIC 470MF,10V
C 301	0208351	CERAMIC DISC 18PF 50V
C 303	0256614	ELECTROLYTIC 10UF 16V
C 305	0256194	ELECTROLYTIC 470MF,10V
C 308	0256614	ELECTROLYTIC 10UF 16V
C 309	0208365	CERAMIC DISC 680PF+-10% 50V
C 310	0208362	CERAMIC DISC 220PF+-10% 50V
C 311	0208374	CERAMIC DISC 10000PF+-20% 16V
C 313	0208352	CERAMIC DISC 22PF 50V
C 315	0256614	ELECTROLYTIC 10UF 16V
C 317	0208355	CERAMIC DISC 39PF+-5% 50V
C 351	0208374	CERAMIC DISC 10000PF+-20% 16V
C 355	0208375	CERAMIC DISC 22000PF+80-20% 25V
C 359	0208375	CERAMIC DISC 22000PF+80-20% 25V
C 360	0208358	CERAMIC DISC 68PF+-5% 50V
C 361	0256614	ELECTROLYTIC 10UF 16V
C 362	0256613	ELECTROLYTIC 4.7UF 35V
C 403	0256614	ELECTROLYTIC 10UF 16V
C 406	0256606	ELECTROLYTIC 1MF,50V
C 408	0256614	ELECTROLYTIC 10UF 16V
C 410	0256622	ELECTROLYTIC 33UF 16V
C 416	0208367	CERAMIC DISC 1000PF+-10% 50V
C 419	0256622	ELECTROLYTIC 33UF 16V
C 423	0239374	CERAMIC DISC 0.01UF+-20% 50V
C 425	0256196	CAPACITOR 100UF 16V ELECTROLYTIC
C 426	0208374	CERAMIC DISC 10000PF+-20% 16V
C 428	0208365	CERAMIC DISC 680PF+-10% 50V
C 431	0239374	CERAMIC DISC 0.01UF+-20% 50V
C 432	0256617	ELECTROLYTIC 22MF,10V
C 433	0256614	ELECTROLYTIC 10UF 16V
C 434	0256180	CAPACITOR 1UF 50V ELECTROLYTIC
C 451	0256627	ELECTROLYTIC 47MF,16V
C 452	0239375	CERAMIC DISC 10000PF+-20%
C 502	0208374	CERAMIC DISC 10000PF+-20% 16V
C 506	0208374	CERAMIC DISC 10000PF+-20% 16V
C 508	0208374	CERAMIC DISC 10000PF+-20% 16V
C 510	0208374	CERAMIC DISC 10000PF+-20% 16V
C 512	0208374	CERAMIC DISC 10000PF+-20% 16V
C 513	0256789	CAPACITOR 470UF 10V ELECTROLYTIC
C 519	0256135	CAPACITOR 10UF 16V ELECTROLYTIC
C 523	0208374	CERAMIC DISC 10000PF+-20% 16V
C 524	0256782	CAPACITOR 220UF 10V ELECTROLYTIC
C 526	0256135	CAPACITOR 10UF 16V ELECTROLYTIC
C 527	0208374	CERAMIC DISC 10000PF+-20% 16V
C 529	0208374	CERAMIC DISC 10000PF+-20% 16V
C 604	0208374	CERAMIC DISC 10000PF+-20% 16V
C 607	0239368	CERAMIC DISC 1500PF+-20%
C 608	0208361	CERAMIC DISC 150PF+-10% 50V
C 610	0208365	CERAMIC DISC 680PF+-10% 50V
C 616	0208367	CERAMIC DISC 1000PF+-10% 50V
C 618	0208375	CERAMIC DISC 22000PF+80-20% 25V
C 620	0208375	CERAMIC DISC 22000PF+80-20% 25V
C 621	0239374	CERAMIC DISC 0.01UF+-20% 50V
C 624	0208374	CERAMIC DISC 10000PF+-20% 16V
C 637	0208375	CERAMIC DISC 22000PF+80-20% 25V
C 638	0208374	CERAMIC DISC 10000PF+-20% 16V
C 639	0256617	ELECTROLYTIC 22MF,10V
C 641	0256475	TANTALUM 4.7UF+-30% 10V
C 642	0208374	CERAMIC DISC 10000PF+-20% 16V
C 643	0256607	ELECTROLYTIC 47UF 25V
C 644	0208367	CERAMIC DISC 1000PF+-10% 50V
C 653	0208360	CERAMIC DISC 100PF+-10% 50V
C 656	0208374	CERAMIC DISC 10000PF+-20% 16V
C 657	0208374	CERAMIC DISC 10000PF+-20% 16V
C 658	0208374	CERAMIC DISC 10000PF+-20% 16V
C 677	0208375	CERAMIC DISC 22000PF+80-20% 25V
C 751	0256488	CAPACITOR 22UF 5V
C 752	0256626	ELECTROLYTIC 47UF 6.3V
C 753	0208374	CERAMIC DISC 10000PF+-20% 16V
C 754	0256626	ELECTROLYTIC 47UF 6.3V
C 755	0208374	CERAMIC DISC 10000PF+-20% 16V
C 756	0256606	ELECTROLYTIC 1MF,50V
C 757	0256612	ELECTROLYTIC 0.47UF 50V
C 759	0208375	CERAMIC DISC 22000PF+80-20% 25V
C 760	0256626	ELECTROLYTIC 47UF 6.3V

SYMBOL-NO	P-NO	DESCRIPTION
C 761	0256612	ELECTROLYTIC 0.47UF 50V
C 763	0208348	CERAMIC DISC 10PF+-5% 50V
C 770	5058562	TRIMMER 22PF
C 801	0208357	CERAMIC DISC 56PF+-5% 50V
C 805	0208374	CERAMIC DISC 10000PF+-20% 16V
C 806	0256629	ELECTROLYTIC 47UF 50V
C 810	0208374	CERAMIC DISC 10000PF+-20% 16V
C 815	0208363	CERAMIC DISC 330PF+-10% 50V
C 816	0208354	CERAMIC DISC 33PF+-5% 50V
C 817	0208354	CERAMIC DISC 33PF+-5% 50V
C 819	0208374	CERAMIC DISC 10000PF+-20% 16V
C 821	0208374	CERAMIC DISC 10000PF+-20% 16V
C 825	0256180	CAPACITOR 1UF 50V ELECTROLYTIC
C 826	0256629	ELECTROLYTIC 47UF 50V
C 830	0208374	CERAMIC DISC 10000PF+-20% 16V
C 854	0256657	ELECTROLYTIC 4700UF 35V
C 856	0256635	ELECTROLYTIC 220UF 50V
C 860	0256607	ELECTROLYTIC 47UF 25V
C 861	0256637	ELECTROLYTIC 330UF 25V
C 863	0256627	ELECTROLYTIC 47MF,16V
C 864	0256627	ELECTROLYTIC 47MF,16V
C 865	0256627	ELECTROLYTIC 47MF,16V
C 867	0256627	ELECTROLYTIC 47MF,16V
C 901	0208374	CERAMIC DISC 10000PF+-20% 16V
C 902	0208375	CERAMIC DISC 22000PF+80-20% 25V
C 903	0208375	CERAMIC DISC 22000PF+80-20% 25V
C 904	0208374	CERAMIC DISC 10000PF+-20% 16V
C 906	0208374	CERAMIC DISC 10000PF+-20% 16V
C 907	0208375	CERAMIC DISC 22000PF+80-20% 25V
C 908	0208374	CERAMIC DISC 10000PF+-20% 16V
C 909	0208354	CERAMIC DISC 33PF+-5% 50V
C 910	0208354	CERAMIC DISC 33PF+-5% 50V
C 912	0208374	CERAMIC DISC 10000PF+-20% 16V
C 913	0208374	CERAMIC DISC 10000PF+-20% 16V
C 921	0208375	CERAMIC DISC 22000PF+80-20% 25V
C 922	0208375	CERAMIC DISC 22000PF+80-20% 25V
C 923	0208375	CERAMIC DISC 22000PF+80-20% 25V
C1202	0208375	CERAMIC DISC 22000PF+80-20% 25V
C1204	0208375	CERAMIC DISC 22000PF+80-20% 25V
C1205	0208690	CERAMIC DISC 180PF+-5% 50V
C1208	02086863	CAPACITOR (120PF+-5% 50V) CERAMIC DISC
C1210	0208448	CERAMIC DISC 22PF+-5% 50V
C1211	0208430	CERAMIC DISC 10PF+-5% 50V
C1212	0208375	CERAMIC DISC 22000PF+80-20% 25V
C1655	0256196	CAPACITOR 100UF 16V ELECTROLYTIC
C1657	0256618	ELECTROLYTIC 22UF 25V
C1658	0256618	ELECTROLYTIC 22UF 25V
C1659	0256618	ELECTROLYTIC 22UF 25V
C1660	0256618	ELECTROLYTIC 22UF 25V
C1661	0256618	ELECTROLYTIC 22UF 25V
C1662	0256618	ELECTROLYTIC 22UF 25V
C1663	0256618	ELECTROLYTIC 22UF 25V

SYMBOL-NO	P-NO	DESCRIPTION
		RESISTORS
R 305	0171015	METAL FILM 68OHM+-5% 1W
RT 201	5007447	SEMI VARIABLE 10KOHM
RT 301	5007434	RESISTOR SEMI VARIABLE 4.7K OHM
RT 351	5007431	RESISTOR SEMI VARIABLE 470 OHM
RT 401	5007899	SEMI VARIABLE 47KOHM
RT 402	5007901	SEMI VARIABLE 100KOHM
RT 501	5009145	VARIABLE RESISTOR 50KOHM
RT 601	5007899	SEMI VARIABLE 47KOHM
RT 607	5007902	SEMI VARIABLE 220KOHM
RT 611	5007901	SEMI VARIABLE 100KOHM
RT 612	5007901	SEMI VARIABLE 100KOHM
RV 751	5027225	RESISTOR VARIABLE 10KOHM
RV 752	5009127	RESISTOR VARIABLE 500KOHM
RV 753	5009128	RESISTOR VARIABLE 20KOHM
R1656	0149705	METAL OXIDE 0.47OHM+-5% 1/2W
		SEMI-CONDUCTORS
D 201	5339071	DIODE 1SS119-T
D 202	5331592	DIODE 1SS133
D 207	5339071	DIODE 1SS119-T
D 208	5339071	DIODE 1SS119-T
D 301	5339071	DIODE 1SS119-T
D 302	5331592	DIODE 1SS133
D 303	5339071	DIODE 1SS119-T
D 401	5339091	DIODE DAN209S
D 402	5331592	DIODE 1SS133
D 403	5332681	DIODE 1SS 119-P
D 404	5332681	DIODE 1SS 119-P
D 405	5332681	DIODE 1SS 119-P
D 502	5339071	DIODE 1SS119-T
D 503	5339071	DIODE 1SS119-T
D 504	5339071	DIODE 1SS119-T
D 505	5339071	DIODE 1SS119-T
D 506	5339071	DIODE 1SS119-T
D 507	5339071	DIODE 1SS119-T
D 508	5339071	DIODE 1SS119-T
D 605	5339071	DIODE 1SS119-T
D 607	5339071	DIODE 1SS119-T
D 608	5339071	DIODE 1SS119-T
D 609	5339071	DIODE 1SS119-T
D 610	5339071	DIODE 1SS119-T
D 619	5339071	DIODE 1SS119-T
D 620	5339071	DIODE 1SS119-T
D 622	5339071	DIODE 1SS119-T
D 623	5339071	DIODE 1SS119-T
D 624	5339071	DIODE 1SS119-T
D 628	5339071	DIODE 1SS119-T
D 629	5339071	DIODE 1SS119-T
D 630	5339071	DIODE 1SS119-T
D 640	5339071	DIODE 1SS119-T

SYMBOL-NO	P-NO	DESCRIPTION
D 643	5339071	DIODE 1SS119-T
D 644	5339071	DIODE 1SS119-T
D 645	5339071	DIODE 1SS119-T
D 651	5339071	DIODE 1SS119-T
D 652	5339071	DIODE 1SS119-T
D 653	5339071	DIODE 1SS119-T
D 654	5339071	DIODE 1SS119-T
D 655	5332681	DIODE 1SS 119-P
D 656	5339071	DIODE 1SS119-T
D 751	53390213	DIODE 1SS133T
D 752	5339021	DIODE 1SS133
D 753	5339021	DIODE 1SS133
D 754	5331592	DIODE 1SS133
D 760	5331592	DIODE 1SS133
D 764	5381211	LED SEL-2213C
D 801	5332681	DIODE 1SS 119-P
D 802	5339071	DIODE 1SS119-T
D 803	5339071	DIODE 1SS119-T
D 804	5339071	DIODE 1SS119-T
D 805	5339071	DIODE 1SS119-T
D 806	5339071	DIODE 1SS119-T
D 851	5332741	DIODE D3SB10
D 852	5331671	DIODE DS135D-FA3
D 853	5331671	DIODE DS135D-FA3
D 854	5331671	DIODE DS135D-FA3
D 855	5331671	DIODE DS135D-FA3
D 856	5331671	DIODE DS135D-FA3
D 857	5331671	DIODE DS135D-FA3
D 858	53315883	DIODE RD2.7E-B2 ZENNER
D 861	5331671	DIODE DS135D-FA3
D 862	5331671	DIODE DS135D-FA3
D 864	5339021	DIODE 1SS133
D 865	5330571	DIODE 1S2473VE SI 100MHZ 250MW 10NS
D 866	5331592	DIODE 1SS133
D 903	5339071	DIODE 1SS119-T
D 904	5339071	DIODE 1SS119-T
D 914	5339071	DIODE 1SS119-T
IC 201	5370821	IC HT4495
IC 203	5370844	IC HT4727C
IC 204	5362262	IC MSM6965RS
IC 205	5370501	IC HT4708
IC 301	5370273	IC HT4539B
IC 303	5366641	IC BA7025L
IC 401	5366331	IC UPC1533HA
IC 402	5364931	IC BA5115L
IC 403	5369431	IC LA7016
IC 501	5369431	IC LA7016
IC 601	5367302	IC M54898AP
IC 602	5369913	M54648L-B
IC 608	5366992	IC M51483P
IC 751	5368683	IC HD614085SA15
IC 801	5361834	IC M50161-354SP
IC 802	5366132	IC LA7934
IC 803	5361071	IC M58657P
IC 804	5721802	IC PROTECTER
IC 805	5721802	IC PROTECTER
IC 851	5353651	IC STK-5471
IC 901	5361812	IC HD614042SD37
IC 902	5367111	IC M54649L
IC 903	5365673	IC NJM2901N
IC1101	5367211	IC SAA5235
IC1102	5362241	IC SAF1134P
IC1651	5355582	IC HA13403
Q 201	5321292	TRANSISTOR 2SC1740S SILICON 250MHZ 0.3W
Q 202	5327021	TRANSISTOR 2SA844CD-TB
Q 203	5321292	TRANSISTOR 2SC1740S SILICON 250MHZ 0.3W
Q 205	5321292	TRANSISTOR 2SC1740S SILICON 250MHZ 0.3W
Q 206	5321255	TRANSISTOR 2SA844CD SILICON 200MHZ 0.3W
Q 207	0573511	TRANSISTOR 2SC535C SILICON 700MHZ 100MW
Q 208	5327021	TRANSISTOR 2SA844CD-TB
Q 209	5322732	TRANSISTOR 2SA952ML2
Q 210	5321292	TRANSISTOR 2SC1740S SILICON 250MHZ 0.3W
Q 211	5321292	TRANSISTOR 2SC1740S SILICON 250MHZ 0.3W
Q 212	5327062	TRANSISTOR 2SC1740S-R
Q 213	5327062	TRANSISTOR 2SC1740S-R
Q 214	5321255	TRANSISTOR 2SA844CD SILICON 200MHZ 0.3W
Q 215	5327021	TRANSISTOR 2SA844CD-TB
Q 401	5327101	TRANSISTER 2SC3553BC
Q 402	5320593	TRANSISTOR 2SA673C
Q 431	5327031	TRANSISTOR 2SA673C
Q 502	5327031	TRANSISTOR 2SA673C
Q 504	5322732	TRANSISTOR 2SA952ML2
Q 505	5320069	TRANSISTOR 2SC458CD SILICON 230MHZ 0.2W
Q 611	5327001	TRANSISTOR 2SC458CD
Q 612	5327001	TRANSISTOR 2SC458CD
Q 613	53234613	TRANSISTOR 2SD1266PQ
Q 614	5320069	TRANSISTOR 2SC458CD SILICON 230MHZ 0.2W
Q 615	5327031	TRANSISTOR 2SA673C
Q 616	5327001	TRANSISTOR 2SC458CD
Q 617	5327001	TRANSISTOR 2SC458CD
Q 626	5327001	TRANSISTOR 2SC458CD
Q 627	5320069	TRANSISTOR 2SC458CD SILICON 230MHZ 0.2W
Q 751	5321663	TRANSISTOR 2SC2021SR
Q 754	5321663	TRANSISTOR 2SC2021SR
Q 755	5321663	TRANSISTOR 2SC2021SR
Q 802	5323903	TRANSISTOR 2SC1740S-RS
Q 803	5327001	TRANSISTOR 2SC458CD
Q 808	5321214	TRANSISTOR 2SD468BC SILICON 190MHZ 0.9W
Q 810	5327031	TRANSISTOR 2SA673C
Q 811	5327031	TRANSISTOR 2SA673C
Q 814	5327062	TRANSISTOR 2SC1740S-R
Q 851	5323331	TRANSISTOR 2SB772Q
Q 904	5327001	TRANSISTOR 2SC458CD
QR 201	5327081	TRANSISTOR RT1N241S

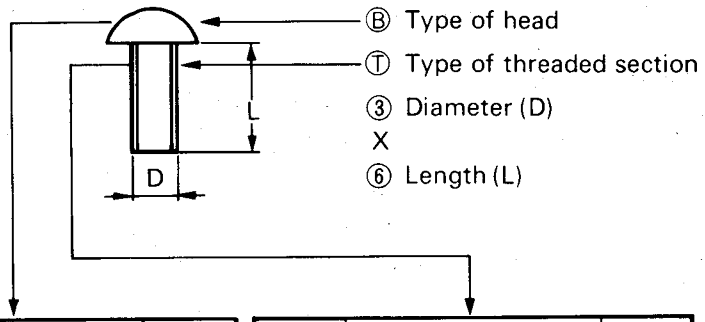
SYMBOL-NO	P-NO	DESCRIPTION
QR 202	5327081	TRANSISTOR RT1N241S
QR 203	5324091	TRANSISTOR RT1N241S
QR 204	5327083	TRANSISTER RT1P241S
QR 205	5324091	TRANSISTOR RT1N241S
QR 206	5327081	TRANSISTOR RT1N241S
QR 207	5327083	TRANSISTER RT1P241S
QR 210	5327083	TRANSISTER RT1P241S
QR 211	5324091	TRANSISTOR RT1N241S
QR 432	5327081	TRANSISTOR RT1N241S
QR 501	5327084	TRANSISTER RT1P441S
QR 502	5327082	TRANSISTOR RT1N441S
QR 505	5327082	TRANSISTOR RT1N441S
QR 506	5327082	TRANSISTOR RT1N441S
QR 601	5327082	TRANSISTOR RT1N441S
QR 602	5327082	TRANSISTOR RT1N441S
QR 604	5327082	TRANSISTOR RT1N441S
QR 605	5324092	TRANSISTOR RT1N441S
QR 606	5324092	TRANSISTOR RT1N441S
QR 628	5324092	TRANSISTOR RT1N441S
QR 629	5324094	TRANSISTOR RT1P441S
QR 631	5327082	TRANSISTOR RT1N441S
QR 632	5324092	TRANSISTOR RT1N441S
QR 633	5324092	TRANSISTOR RT1N441S
QR 758	5324092	TRANSISTOR RT1N441S
QR 801	5327082	TRANSISTOR RT1N441S
QR 804	5327082	TRANSISTOR RT1N441S
QR 812	5327082	TRANSISTOR RT1N441S
QR 852	5324091	TRANSISTOR RT1N241S
Q1102	5321255	TRANSISTOR 2SA844CD SILICON 200MHZ 0.3W
Q1103	5320069	TRANSISTOR 2SC458CD SILICON 230MHZ 0.2W
Q1201	5321663	TRANSISTOR 2SC2021SR
Q1202	5321663	TRANSISTOR 2SC2021SR
Q1203	5322993	TRANSISTOR 2SA937QR SILICON
ZD 201	5331014	DIODE HZ5A SI ZENER
ZD 601	53303173	DIODE HZ-7A-1 ZENNER
ZD 602	5330318	DIODE HZ7B2 SI ZENER 1MHZ 0.4W
ZD 603	5331271	DIODE HZ18-3
ZD 604	5330563	DIODE HZ16-3 SI ZENER 1MHZ 0.4W
ZD 751	5332633	DIODE RD4R7JSB1-2
ZD 752	5330322	DIODE HZ9B SI ZENER 1MHZ 0.4W
ZD 753	5331588	DIODE RD2.7E-B2
ZD 801	5350611	IC UPC574J
ZD 802	5339102	DIODE HZ5A
ZD 803	5331274	DIODE ZENNER
		TRANSFORHERS
T 401	5262531	BIAS COIL
		COILS
L 201	5159073	CHOKE COIL 47UH+-10%
L 202	5152321	CHOKE COIL 5.6MICRO H
L 203	5152337	CHOKE COIL 100UH+-10%
L 204	5159079	CHOKE COIL 150UH+-10%
L 205	5153036	CHOKE COIL 27UH
L 206	5153005	CHOKE COIL 22UH
L 207	5152342	CHOKE COIL 220UH+-10%
L 208	5152342	CHOKE COIL 220UH+-10%
L 209	5159152	CHOKE COIL 68UH
L 210	5153033	CHOKE COIL 15UH
L 211	5152342	CHOKE COIL 220UH+-10%
L 212	5159145	CHOKE COIL 22UH
L 213	5159141	CHOKE COIL 10UH
L 214	5153031	CHOKE COIL 10UH
L 215	5159147	CHOKE COIL 33UH
L 301	5153038	CHOKE COIL 39UH
L 302	5150577	CHOCK COIL 12MH
L 303	5159064	CHOKE COIL 10UH+-10%
L 304	5159146	CHOKE COIL 27UH
L 305	5159066	CHOKE COIL 15UH+-10%
L 306	5152342	CHOKE COIL 220UH+-10%
L 351	5120849	TRAP COIL
L 352	5152337	CHOKE COIL 100UH+-10%
L 401	5152349	CHOKE COIL 820MH
L 403	5159111	CHOKE COIL 5600UH
L 404	5159111	CHOKE COIL 5600UH
L 501	5159158	CHOKE COIL 220UH
L 502	5159154	CHOKE COIL 100UH
L 503	5159154	CHOKE COIL 100UH
L 851	5273341	LINE FILTER
L 901	5159077	CHOKE COIL 100UH+-10%
L1101	5153031	CHOKE COIL 10UH
L1201	5159154	CHOKE COIL 100UH
L1202	5159154	CHOKE COIL 100UH
L1203	5159152	CHOKE COIL 68UH
L1205	5153032	CHOKE COIL 12UH
L1206	5159154	CHOKE COIL 100UH
		CRYSTALS
X 751	5781611	CRYSTAL
X 801	5781121	XTAL
X1101	5781631	CRYSTAL
		MISCELLANEOUS
BZ 799	5409271	BUZZER
CE 901	5781121	XTAL
CP 201	5123839	TRAP COIL
CP 202	5169002	HIGH PASS FILTER
CP 203	5169012	LOW PASS FILTER
CP 204	5169003	LOW PASS FILTER
CP 205	5169022	LOW PASS FILTER
CP 301	5785814	DELAY LINE
CP 302	5163082	BAND PASS FILTER
CP 351	5160431	BAND PASS FILTER
DG 751	5311772	TIMER DISPLAY

SYMBOL-NO	P-NO	DESCRIPTION	SYMBOL-NO	P-NO	DESCRIPTION
F 850	5720175	FUSE 0.8A	S 765	5635061	SWITCH
F 851	5721064	FUSE	S 766	5635061	SWITCH
F 852	5721064	FUSE	S 768	5635061	SWITCH
F 853	5720171	FUSE 315MA	S 769	5635061	SWITCH
S 143	5633362	PUSH SWITCH	S 771	5635111	SMK CONNECTOR (V-10)
S 144	5633362	PUSH SWITCH	S 772	5635111	SMK CONNECTOR (V-10)
S 501	5622462	SLIDE SWITCH	S 773	5635111	SMK CONNECTOR (V-10)
S 751	5635061	SWITCH	S 775	5635111	SMK CONNECTOR (V-10)
S 752	5635061	SWITCH	S 776	5635111	SMK CONNECTOR (V-10)
S 753	5635061	SWITCH	S 777	5635111	SMK CONNECTOR (V-10)
S 754	5635061	SWITCH	S 778	5635111	SMK CONNECTOR (V-10)
S 755	5635061	SWITCH	S 780	5635111	SMK CONNECTOR (V-10)
S 756	5635061	SWITCH	S 781	5635111	SMK CONNECTOR (V-10)
S 757	5635061	SWITCH	S 782	5635111	SMK CONNECTOR (V-10)
S 759	5635061	SWITCH	S 785	5635111	SMK CONNECTOR (V-10)
S 760	5635061	SWITCH	S 786	5635111	SMK CONNECTOR (V-10)
S 761	5635061	SWITCH	S 787	5635111	SMK CONNECTOR (V-10)
S 762	5635061	SWITCH	S 799	5622801	SWITCH
S 764	5635061	SWITCH			

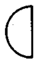
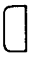
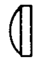
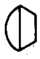
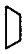
EXPLODED VIEWS

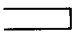
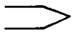
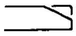
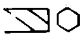
SCREW CLASSIFICATION

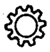
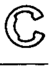
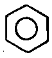
Example: BT3 × 6



Washers and Nuts

Abbre-viation	Name	Shape
No symbol	Brazier head	
P	Pan head	
B	Binding head	
O	Oval countersunk head	
F	Flat countersunk head	

Abbre-viation	Name	Shape
No symbol	Machine (clamps without tapping)	
t	Tapping (clamps with tapping) Type 1	
T	Tapping (clamps with tapping) Type 2	
f	Forming tight (for metal)	
Note	Since the forming tight screw tightens while self-tapping, machine screws can be replaced by tapping screws.	

Abbre-viation	Name	Shape
W SW LW	Washer Spring washer Locking washer	 
E	E-ring	
N	Nut	
Note	Internal dia is indicated for nuts and washers.	

LUBRICATION

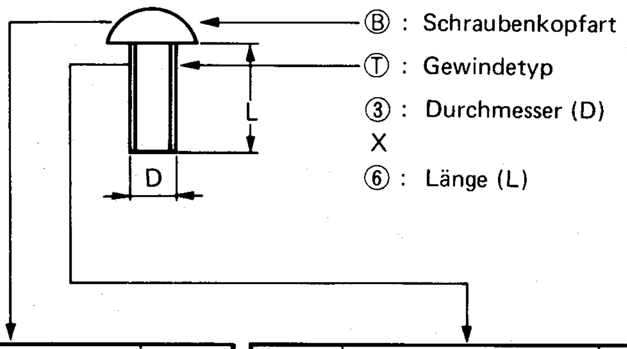
Lubrication points are shown in the exploded view diagrams by marks (Ⓢ, Ⓗ)
Lubricants shown in the diagram are as follows.

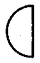
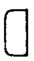
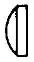
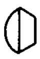
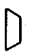
Ⓢ Sonic slider oil (≒ 1600)
Ⓗ Hitazol (MO-138)

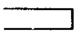
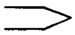
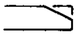
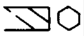
EXPLOSIONSZEICHNUNGEN

Schrauben-Klassifikation

Beispiel: BT3 x 6

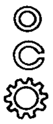
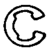
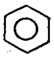


Abkürzung	Bezeichnung	Form
Kein symbol	Rundkopfschraube	
P	Zylinderkopfschraube	
B	Halbrundschraube	
O	Linsenkopf-Senkschraube	
F	Senkschraube	

Abkürzung	Bezeichnung	Form
Kein symbol	Maschinenschraube	
t	Schneidschraube Typ 1 (selbstschneidend)	
T	Schneidschraube Typ 2 (selbstschneidend)	
f	Blechschraube (für Metall)	

Hinweis: Blechschrauben sind selbstschneidend; die selbstschneidenden maschinenschrauben können durch Schneidschrauben ersetzt werden.

Unterlegescheiben und Muttern

Abkürzung	Bezeichnung	Form
W SW LW	Unterlegescheibe Federscheibe Sicherungsscheibe	
E	E-Ring	
N	Mutter	

Hinweis: Für Muttern und Scheiben werden der Innendurchmesser angegeben.

Schmierung

Die Schmierpunkte sind in den Explosionszeichnungen durch Symbole (Ⓢ, Ⓗ) gekennzeichnet.
Die im Diagramm gezeigten Schmierpunkte sind mit folgenden Schmiermittel zu schmieren:

Ⓢ Sonic-Gleitöl (Nr. 1600)
Ⓗ Hitazol (MO-138)

MECHANICAL PARTS LIST

[CABINET SECTION]

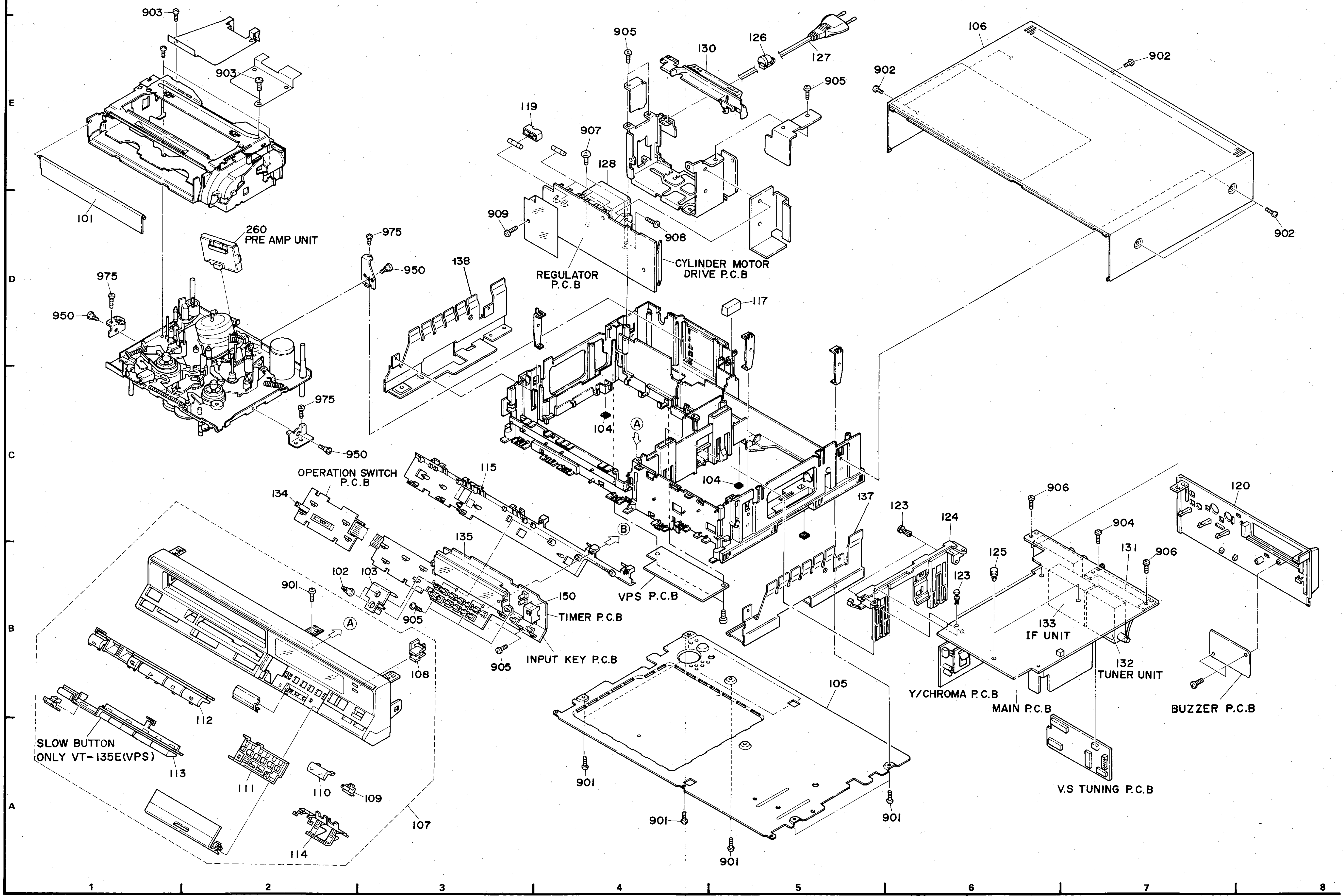
SYMBOL-NO	P-NO	DESCRIPTION
		FOR FINAL ASSEMBLY
101	6189398	CASSETTE DOOR
102	6077031	ROTARY KNOB
103	6892333	HOLDER
104	7741444	FELT (LEG)
105	6001561	BOTTOM COVER
106	6002073	TOP COVER ASSEMBLY [For VT-125E (VPS/VPSK)]
106	6001894	TOP COVER ASSEMBLY [For VT-135E (VPS)]
107	6238925	FRONT PANEL ASSEMBLY [For VT-125E (VPS)]
107	6238932	FRONT PANEL ASSEMBLY [For VT-125E (VPSK)]
107	6238938	FRONT PANEL ASSEMBLY [For VT-135E (VPS)]
108	6083613	BUTTON
109	6083572	BUTTON
110	6083582	BUTTON [For VT-125E (VPS)/VT-135E (VPS)]
110	6083586	BUTTON [For VT-125E (VPSK)]
111	6083605	BUTTON
112	6083892	BUTTON [For VT-125E (VPS)/VT-135E (VPS)]
112	6083896	BUTTON [For VT-125E (VPSK)]
113	6083884	BUTTON [For VT-125E (VPS/VPSK)]
113	6083883	BUTTON [For VT-135E (VPS)]
115	6890462	PCB HOLDER
116	6864241	CAP
119	6753911	FUSE COVER
120	6026751	REAR PANEL
123	6795152	RIVET
124	6893942	HINGE
125	6890501	STUD
126	6794591	BUSHING
127	5850721	POWER CORD
128	5213811	POWER TRANSFORMER
130	6892513	REAR PIECE
131	5672971	JACK PLATE
132	5586593	TUNER IF BLOCK
133	5587621	RF CONVERTOR
134	6890631	LED HOLDER
135	6891531	DISPLAY HOLDER
136	6869311	COVER
137	6002002	SIDE COVER (R)
138	6001992	SIDE COVER (L)
150	5490295	IR MODULE
901	8699410	SCREW (3X14) BLACK
902	7784428	SCREW (M3)
903	8741406	SCREW (3X6)
904	8691408	SCREW (3X8)
905	8699410	SCREW (3X14) BLACK
906	8699412	SCREW (3X12) BLACK
907	8691608	SCREW 4X8BT
908	86914143	SCREW
909	8691408	SCREW (3X8)

[CHASSIS/CASSETTE LOADING MECHANISM/ CYLINDER MOTOR SECTION]

SYMBOL-NO	P-NO	DESCRIPTION
		FOR FINAL ASSEMBLY
202	6415391	REEL TABLE-SUPPLY
203	6415412	REEL TABLE-TAKE UP
206	7787412	WASHER
207	7778859	POLYSLIDER WASHER
208	6865662	ARM-BRAKE
209	7386841	TENSION ARM
210	6865804	BRAKE L
211	6865812	BRAKE R
212	6302471	SPRING
213	6543864	SPRING
214	7376271	TENSION BAND
215	6879421	BT.SPRING HOLDER
216	7386882	ARM BRACKET
217	6886792	ARM
218	7376303	LOADING LINK ASSY (RIGHT)
219	7376313	LOADING LINK ASSY (LEFT)
220	6978301	GUIDE ROLLER BASE (IN)
221	6974661	BASE
224	6869481	GUIDE ROLLER
226	7386893	GUIDE BASE HOLDER
228	6868061	GUIDE ROLLER ASSEMBLY (OUT)
230	6304903	SPRING
231	6879902	IMPEDANCE ARM ASSY
232	5446151	FULL ERASE HEAD
233	6302391	SPRING
234	5446161	AUDIO CONTROL HEAD
235	6304906	SPRING
236	7786245	WASHER
237	6878932	SUB BRAKE
238	6300084	SPRING
239	5578761	MOTOR-CAPSTAN
240	6865675	REC PREVENTION ARM
241	5633971	SWITCH (S142)
242	7788143	POLYSLIDER WASHER
243	6979842	PRESSURE ROLLER ASSEMBLY
246	6547811	SPRING
247	6979041	X-ADJUST SCREW
248	5625141	SWITCH
250	6873291	COLLAR
251	4504401	TAPE GUIDE
255	6877521	COLLAR
256	6539101	SPRING
260	5372041	PRE AMP PCB ASSEMBLY
301	6886824	CLUCH PLATE ASSEMBLY
302	6355561	BELT
303	7386971	SLIDER-BRAKE
304	6865733	MODE SLIDER
305	6547821	SPRING
306	6434671	GEAR
307	6865791	TENTION ARM
311	7386933	LOADING MOTOR

SYMBOL-NO	P-NO	DESCRIPTION
312	6356111	BELT
313	6356451	BELT
314	6979051	FLYWHEEL
315	7788142	WASHER
316	7788861	WASHER
317	6356101	BELT
318	6356081	BELT
319	7386832	FLYWHEEL HOLDER
320	6869291	PULLEY
321	7778859	POLYSLIDER WASHER
322	6355561	BELT
401	7397054	FRONT LOADING ASSY (MECHA ASSY)
402	7386745	SIDE BRACKET ASSY (LEFT)
403	7386701	BRACKET(R)
404	7386815	CASSETTE HOLDER
412	7394493	BRACKET-MOTOR
414	5946911	MOTOR CBA
417	6879104	LOADING GEAR (R)
423	6879093	LOADING GEAR (L)
424	7367361	PLATE
425	6887322	FRONT HOLDER
427	6879153	DOOR ARM
428	6301027	SPRING
430	6879182	GUIDE PIECE
501	5457471	UPPER CYLINDER
502	5457481	LOWER CYLINDER
503	5792631	BRUSH
950	7541395	SPECIAL SCREW
951	8691408	SCREW (3X8)
952	8741408	SCREW (B3X8)
954	7781133	BT SCREW 3MMD
955	8691408	SCREW (3X8)
956	8691408	SCREW (3X8)
958	8691408	SCREW (3X8)
959	77730833	SCREW
960	8741408	SCREW (B3X8)
961	8812114	WASHER - 3MMD SMALL
962	8650412	SCREW (3X12)
963	8821114	3D NUT
964	87411033	SCREW(2X3B)
965	7781872	SCREW-3MMDX8MM
966	7773086	SCREW
967	8741414	SCREW (3X14)
968	8821114	3D NUT
969	8741408	SCREW (B3X8)
970	8691408	SCREW (3X8)
971	8691408	SCREW (3X8)
972	8691312	SCREW (2.6X12)
975	8699410	SCREW (3X14) BLACK
976	7782781	SCREW 3X8BT
977	8691408	SCREW (3X8)
978	8741408	SCREW (B3X8)
979	8650408	SCREW
980	8741406	SCREW (3X6)
983	8741403	BIND SCREW-3MMDX3MM
985	8671406	SCREW
986	8678405	SCREW (3X5) BLACK
988	8691410	SCREW
989	87111033	PAN HEAD SCREW 2X3
990	8741406	SCREW (3X6)

CABINET SECTION (GEHÄUSEEINHEIT)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903
101
260
PRE AMP UNIT
975
950
975
950
975
950
905
130
126
127
119
907
128
909
908
REGULATOR
P.C.B
CYLINDER MOTOR
DRIVE P.C.B
905
106
902
902
902
138
117
104
Ⓐ
104
OPERATION SWITCH
P.C.B
134
115
Ⓑ
135
901
102
103
905
150
TIMER P.C.B
INPUT KEY P.C.B
905
VPS P.C.B
Ⓐ
108
112
SLOW BUTTON
ONLY VT-135E(VPS)
113
111
110
109
107
114
137
123
124
125
123
906
904
131
906
120
133
IF UNIT
132
TUNER UNIT
Y/CHROMA P.C.B
MAIN P.C.B
BUZZER P.C.B
V.S TUNING P.C.B
105
901
901
901
901
E
D
C
B
A
1
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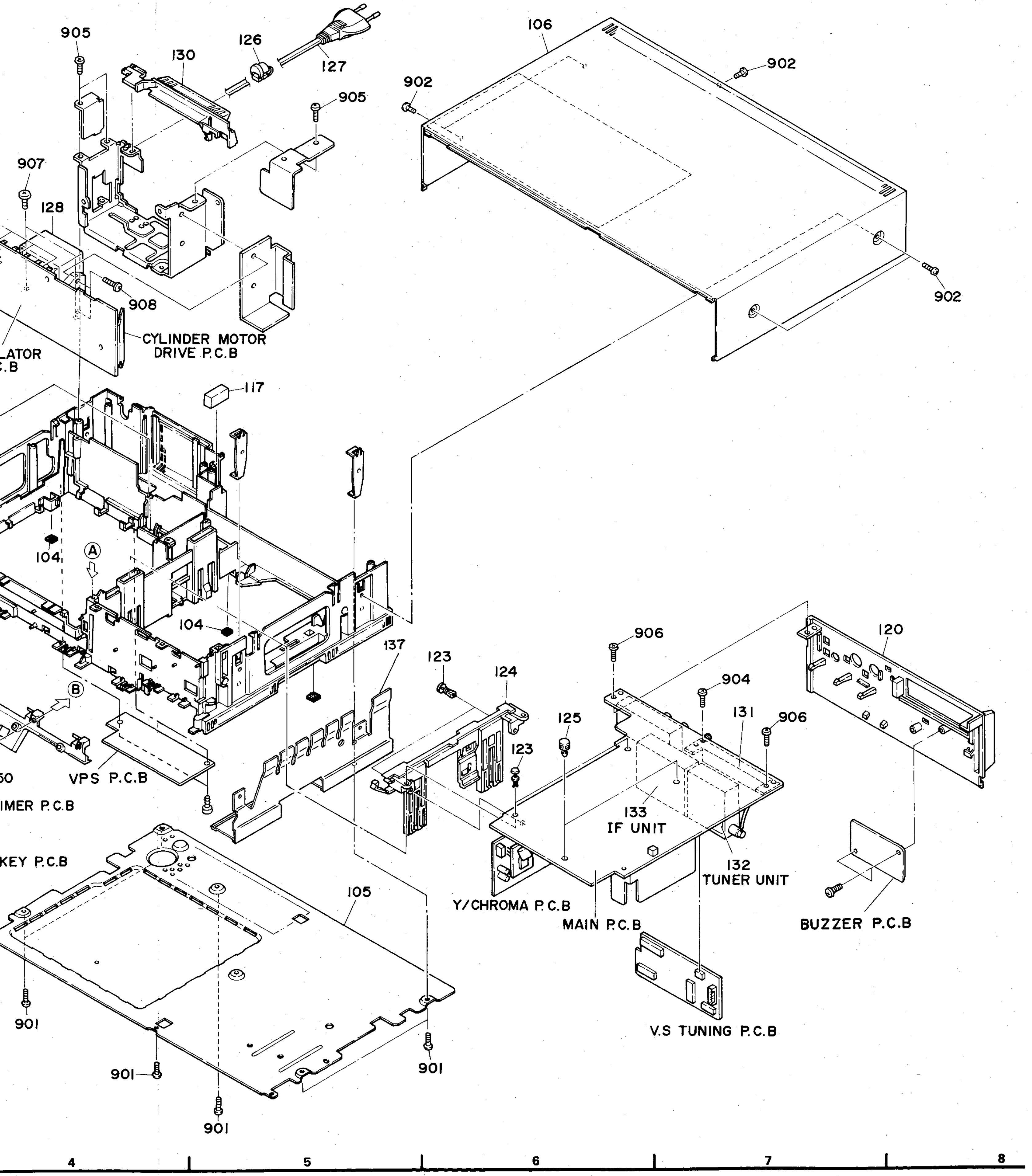
8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130
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106
902
902
905
907
128
908
CYLINDER MOTOR DRIVE P.C.B
LATOR
.B
902
117
104
Ⓐ
104
137
123
124
906
120
904
131
906
125
123
Ⓑ
50
VPS P.C.B
IMER P.C.B
133
IF UNIT
KEY P.C.B
132
TUNER UNIT
105
Y/CHROMA P.C.B
MAIN P.C.B
BUZZER P.C.B
V.S TUNING P.C.B
901
901
901
901
901
4
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6
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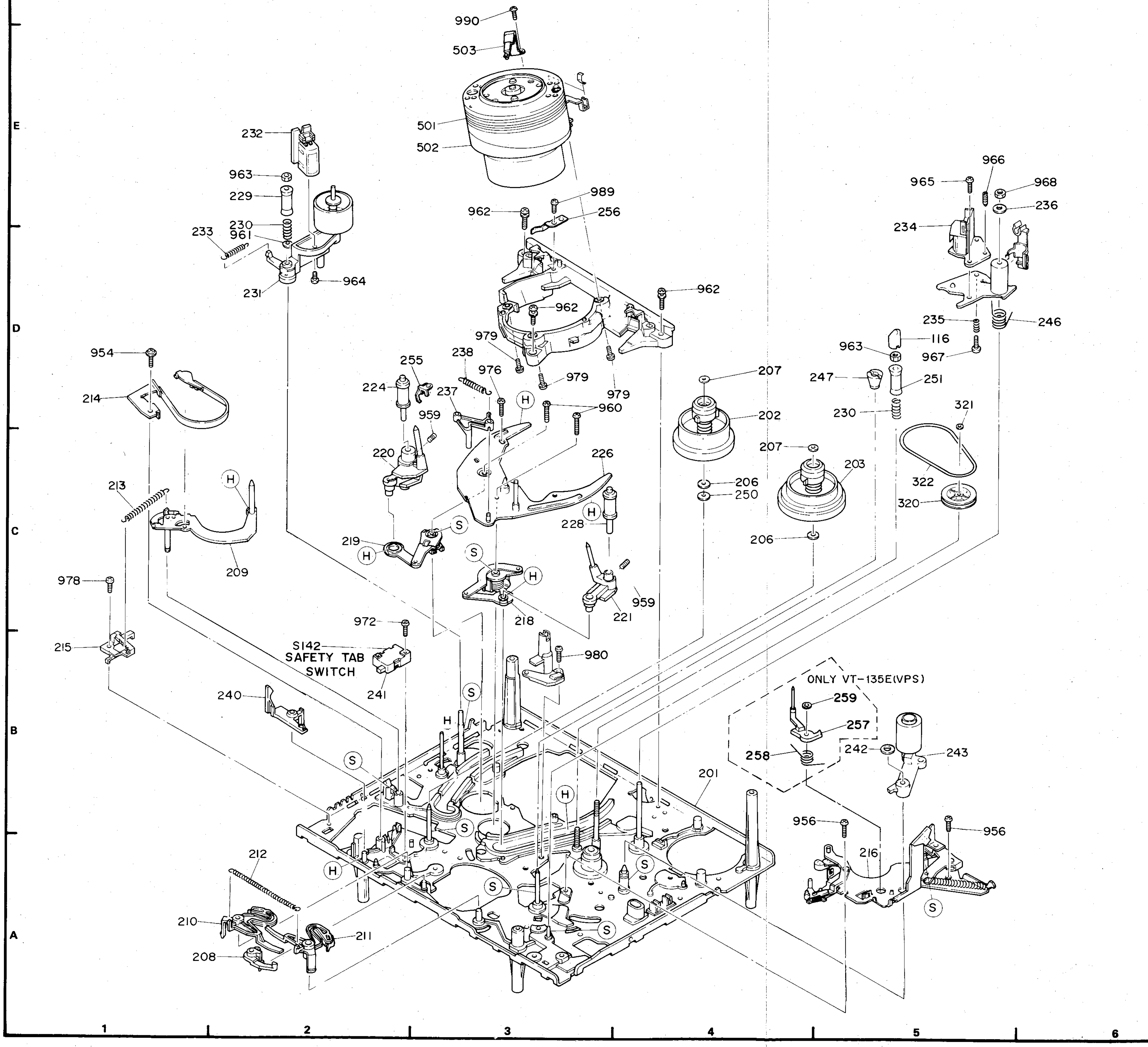
8

6-15 CABINET SECTION

CHASSIS (I) SECTION (CHASSIS [I])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503
501
502
232
963
229
230
961
233
231
964
962
989
256
962
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979
954
214
213
209
255
238
976
224
237
959
960
220
226
219
228
218
221
959
978
215
972
S142
SAFETY TAB
SWITCH
241
980
240
212
210
208
211
201
207
202
207
203
206
250
206
965
966
968
236
234
235
246
116
963
967
247
251
230
321
322
320
ONLY VT-135E(VPS)
259
257
258
242
243
956
956
216
H
S
E
D
C
B
A
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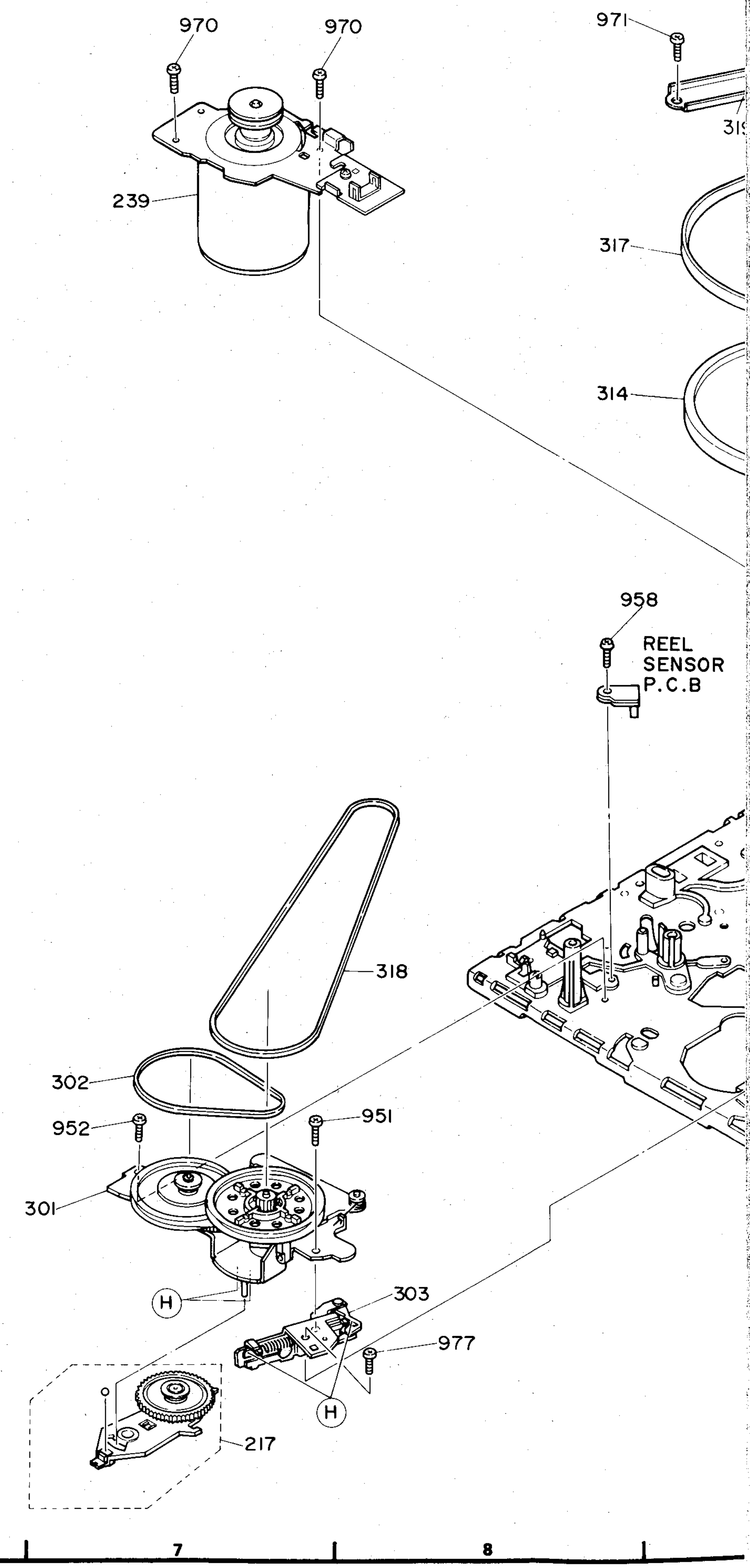
5
6

CHASSIS (II) SECTION (CHASSIS [II])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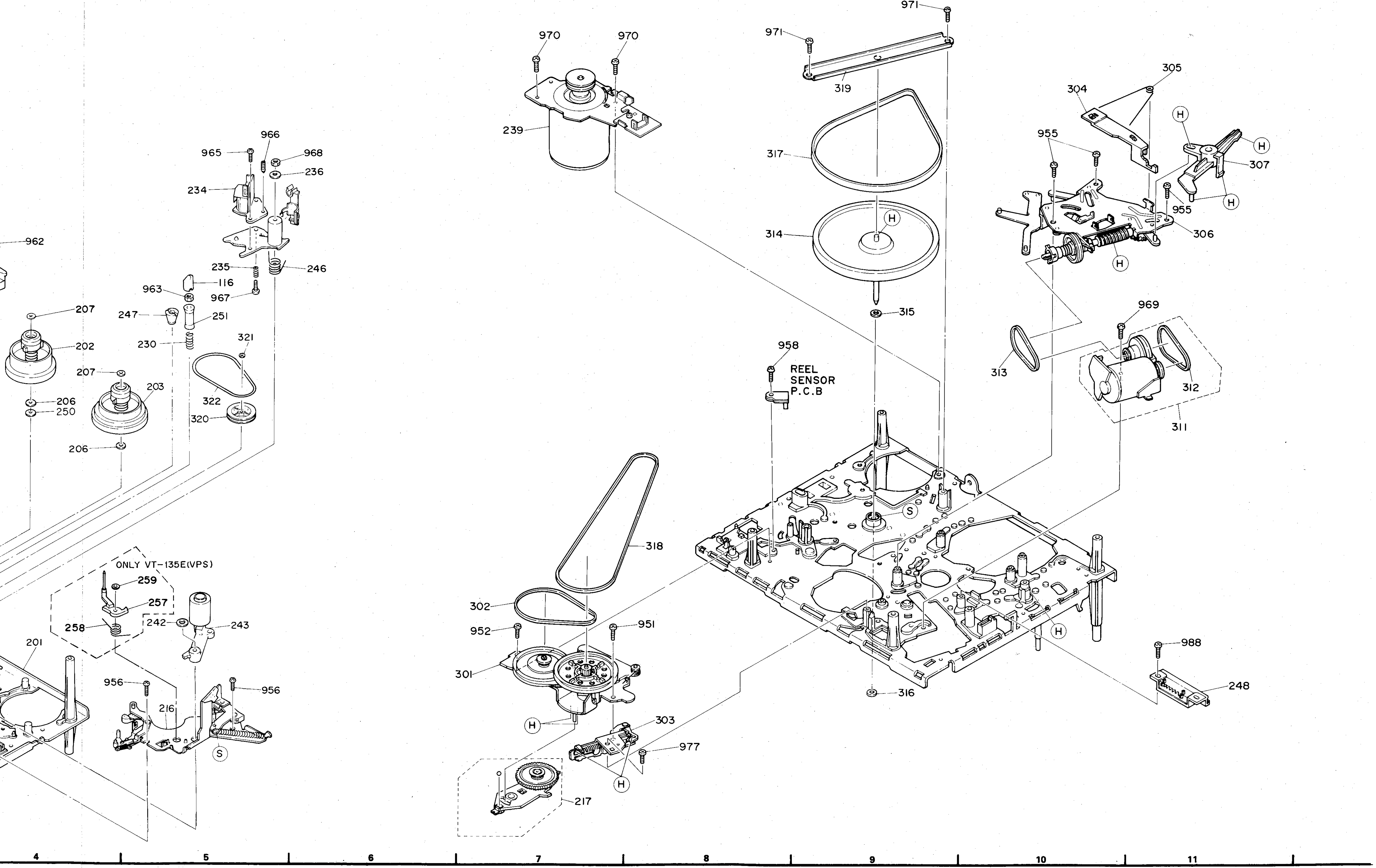
970
971
239
317
314
958
REEL
SENSOR
P.C.B
318
302
952
951
301
303
977
217
H
7
8

CHASSIS (II) SECTION (CHASSIS [II])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971
970
970
319
305
304
239
966
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968
236
955
307
234
317
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306
314
H
962
235
246
H
116
963
967
207
247
251
202
230
321
315
958
969
REEL SENSOR P.C.B
313
312
207
203
322
206
250
320
311
206
S
318
ONLY VT-135E(VPS)
259
257
302
258
242
243
952
951
H
201
988
248
301
956
956
216
316
S
H
303
977
H
217
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7
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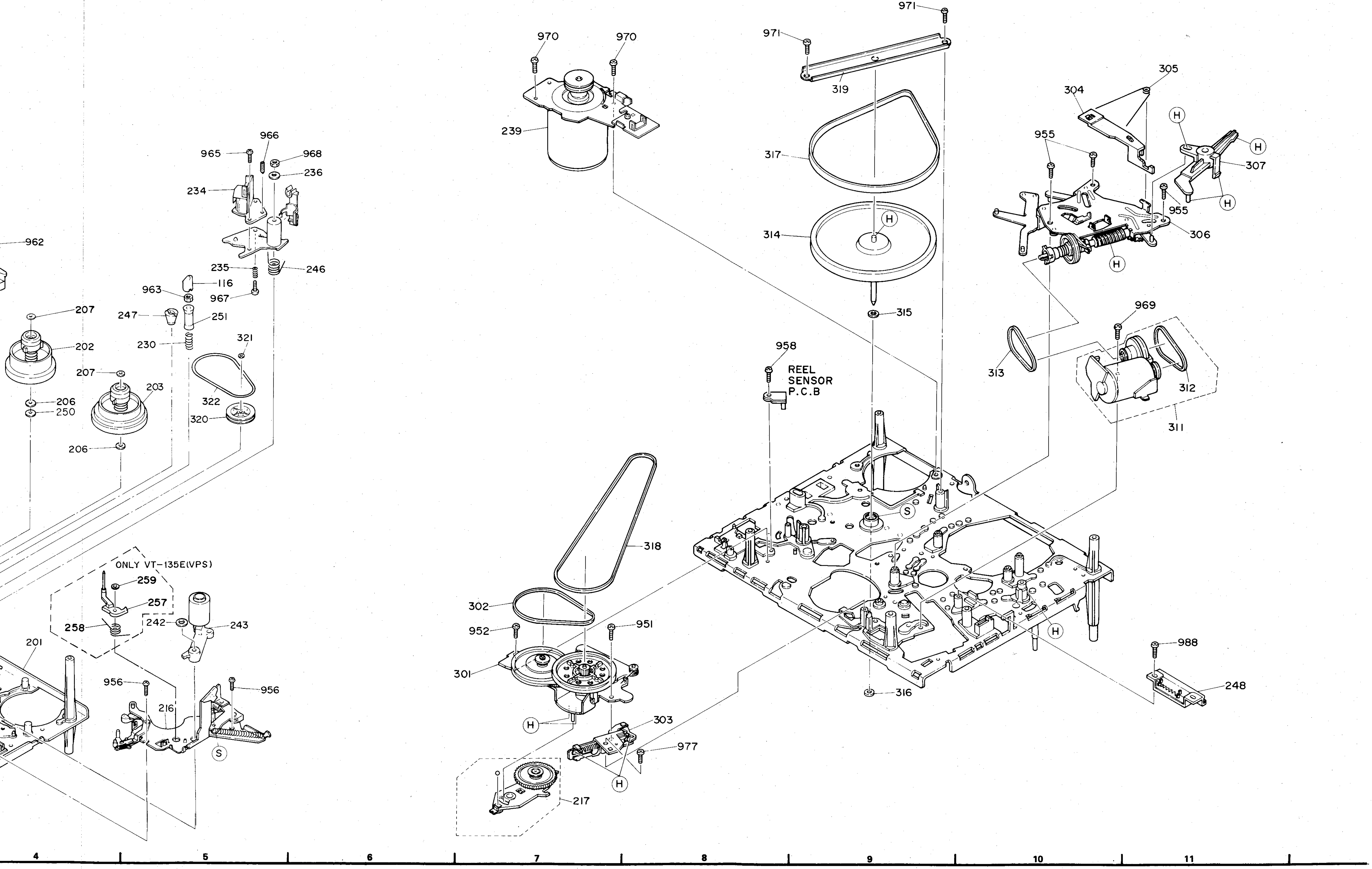
11

CHASSIS (II) SECTION (CHASSIS [II])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967
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202
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321
315
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958
REEL
SENSOR
P.C.B
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318
ONLY VT-135E(VPS)
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988
201
301
248
956
956
216
316
303
977
217
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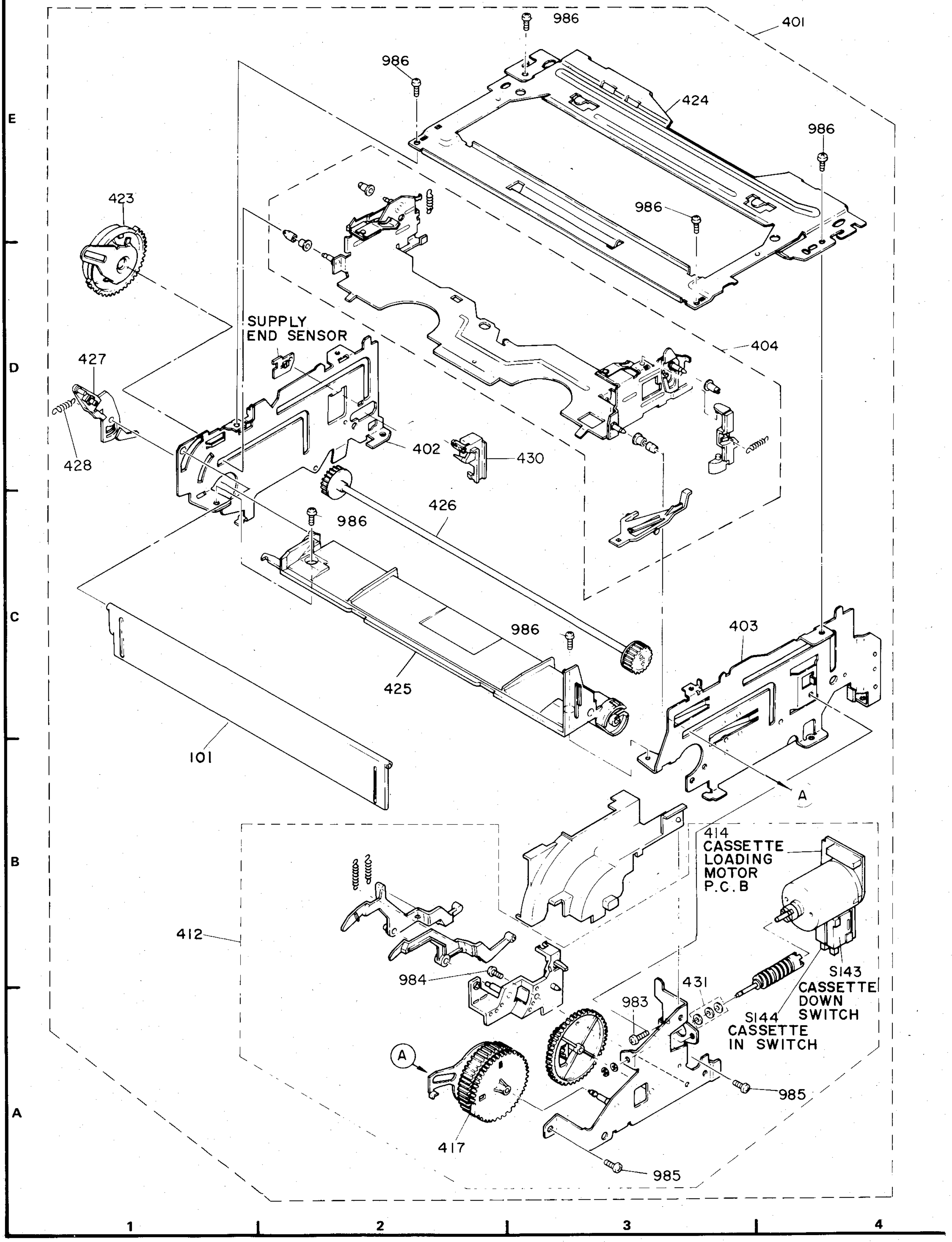
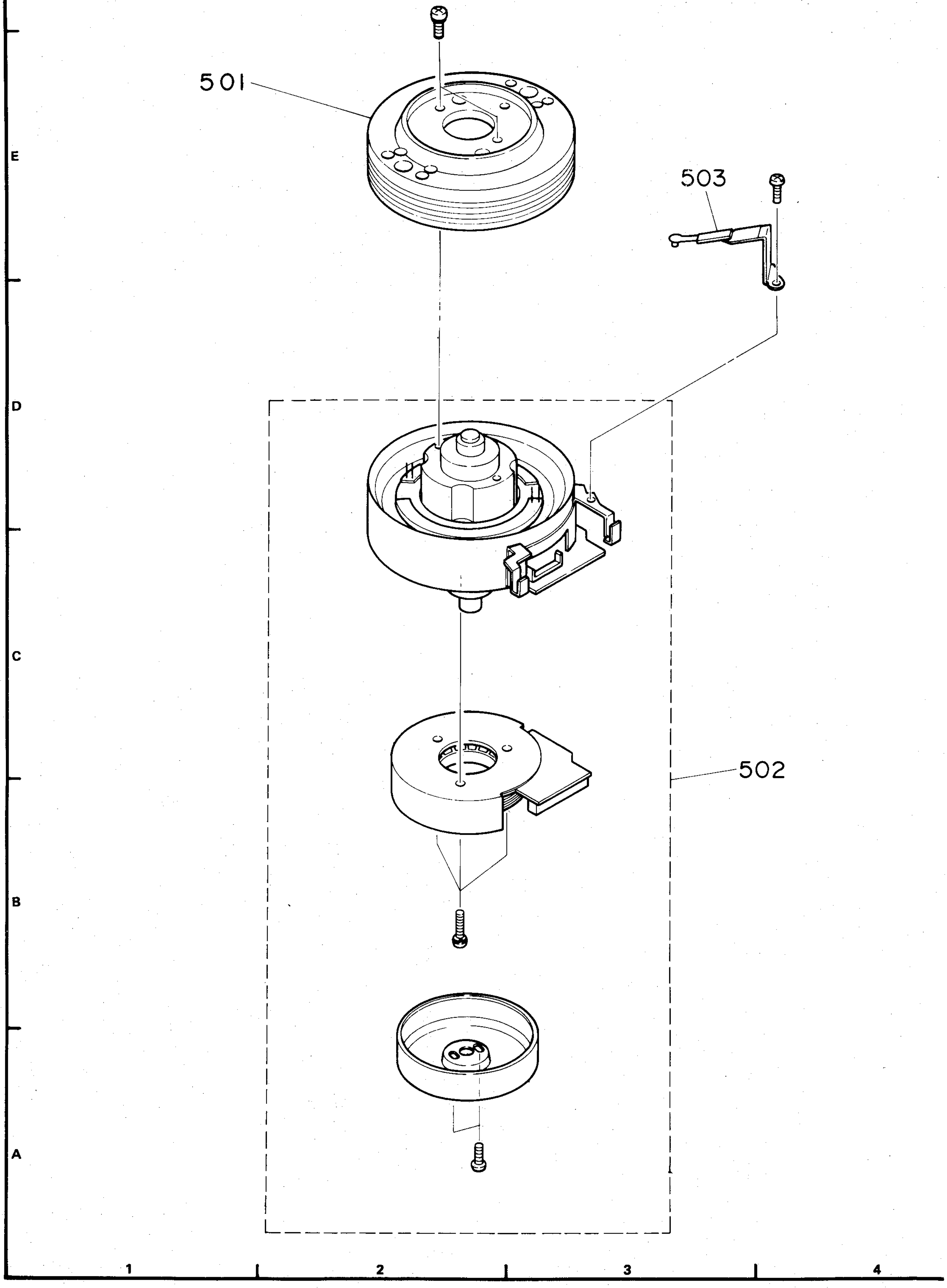
11

CASSETTE LOADING MECHANISM SECTION
(CASSETTEN-LADEMECHANISMUS)



E
D
C
B
A
1
2
3
4
986
401
986
424
986
986
423
SUPPLY END SENSOR
404
427
428
402
430
426
986
403
986
425
101
A
414 CASSETTE LOADING MOTOR P.C.B
412
984
431
983
S143 CASSETTE DOWN SWITCH
S144 CASSETTE IN SWITCH
985
A
417
985

CYLINDER MOTOR SECTION (KOPFTROMMELMOTOR)


501
503
502
E
D
C
B
A
1
2
3
4